### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-26-2012	•
API#:	47-009-00111	Ŀ"

Farm name: Brooke County Park BRK 8H	Operator Well No.: 834341				
LOCATION: Elevation: 1206'	Quadrangle: Stuebenville East				
District: Buffalo	County: Brook	(e			
Latitude: 1740' Feet South of 40 Deg.	17 Min	. 30 Sec	c.	<del></del>	
Longitude 11350' Feet West of 80 Deg.	32 Min	. 30 Sec	<b>:</b> .		
Company: Chesapeake Appalachia, L.L.C.					
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	20"	120'	120'	202 Cu. Ft.	
Agent: Eric Gillespie	13 3/8"	396'	396'	505 Cu. Ft.	
Inspector: Bill Hendershot	9 5/8"	1758'	1758'	808 Cu. Ft.	
Date Permit Issued: 11-18-2011	5 1/2"	10804'	10804'	2470 Cu. Ft.	
Date Well Work Commenced: 1-15-2012					
Date Well Work Completed: 6-28-2012					
Verbal Plugging:					
Date Permission granted on:					
Rotary Cable Rig					
Total Vertical Depth (ft): 6018'(cement plug @4980'-5979')					
Total Measured Depth (ft): 10807'					
Fresh Water Depth (ft.): 73', 250'					
Salt Water Depth (ft.): 1126'					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): 330'					
Void(s) encountered (N/Y) Depth(s) N					
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay 2	cone depth (ft) 6	,240'-10,663'	ata on separate s	heet)	
Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow MOF/d Final open flow			احتاحا	PENME	
Time of open flow between initial and final tests					
Static rock Pressurepsig (surface pressure) af	terHour	rs	SEP	↑	
Second producing formation Pay zor  Gas: Initial open flow MCF/d Oil: Initial open flow	• • •				
Final open flow MCF/d Final open flow Time of open flow between initial and final tests	/Bb	l/d	Environme	anai Protection	
Static rock Pressurepsig (surface pressure) af					

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlone Williams
Signature

9-27-2012 Date

Were core samples taken? Ye	esNo_X	Were cuttings caught during	g drilling? Yes	No_X
Were Electrical, Mechanical or open hole logs run from 0' - 6,000' MD; LV	Geophysical logs recorded on this VD GR from 4,900' - 10,746' MD.	s well? If yes, please list GR, r	neutron, density, ar	nd resistivity
FRACTURING OR STIMUS DETAILED GEOLOGICAL	BELOW PUT THE FOLLOW LATING, PHYSICAL CHANG L RECORD OF THE TOPS A TTHE WELLBORE FROM SUI	E, ETC. 2). THE WELL LOG AND BOTTOMS OF ALL	G WHICH IS A SY FORMATIONS, I	STEMATIC
Perforated Intervals, Fracturing	, or Stimulating:			
(See Attached)				
Plug Back Details Including Plug	ug Type and Depth(s): Cement	plug @4980'-5979'		
Formations Encountered: Surface:	Тор Дер	th /	Bottom D	epth .
(See Attached)				
				<del></del>

Well Number and Name: 834341 Brooke County Park BRK 8H

PERFO	RATION RE	CORD				STIMULAT	TON RECOR	D		
	interval F	erforated				F	luid	Propp	ing Agent	Average
Date	From	To	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
6/2/2012	10,099	10,663	6/22/2012	10,099	10,663	Sik wtr	12,791	Sand	640,320	79.9
6/22/2012		10,020	6/22/2012	9,456	10,020	Slk wtr	12,920	Sand	640,860	79.9
6/22/2012	8,813	9,377	6/25/2012	8,813	9,377	Slk wtr	13,001	Sand	642,320	79.1
6/25/2012	8,169	8,734	6/25/2012	8,169	8,734	Slk wtr	12,735	Sand	636,400	80
6/25/2012	7,526	8,090	6/28/2012	7,526	8,090	Slk wtr	12,582	Sand	640,880	79.7
6/28/2012		7,447	6/28/2012	6,883	7,447	Slk wtr	12,833	Sand	635,720	80
6/28/2012	6,240	6,804	6/28/2012	6,240	6,804	Slk wtr	12,618	Sand	640,420	80
			l							
L										

#### **VERTICAL PILOT HOLE**

Formation/Lithology	Top Depth, TVD/MD (ft)	Bottom Depth, TVD/MD (ft)
LS/SHALE	0	330
PITTSBURG COAL	330	340
SHALE	340	1000
SS/SHALE	1000	1300
SHALE/LS/SS	1300	1340
BIG INJUN (SS)	1340	1624
SHALE	1624	5727
GENESEO (SH)	5727	5740
TULLY (LS)	5740	5801
HAMILTON (SH)	5801	5904
MARCELLUS (SH)	5904	5965
ONONDAGA (LS)	5965	
TD OF PILOT HOLE		6000

### LATERAL SIDETRACK WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SHALE	0	0	330	330
PITTSBURG COAL	330	330	340	340
SHALE	340	340	1000	1000
SS/SHALE	1000	1000	1300	1300
SHALE/LS/SS	1300	1300	1340	1340
BIG INJUN (SS)	1340	1340	1624	1624
SHALE	1624	1624	5720	5711
GENESEO (SH)	5720	5711	5734	5724
TULLY (LS)	5734	5724	5804	5785
HAMILTON (SH)	5804	5785	5980	5896
MARCELLUS (SH)	5980	5896		
TD OF LATERAL			10807	6018

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-26-2012	,
API#:	47-009-00105	<del>/</del>

Farm name: Brooke County Parks BRK 3H	Operator We	ell No.: 833685		
LOCATION: Elevation: 1206'	_ Quadrangle:	Steubenville Eas	t	-
District: Buffalo	County: Broo	ike		
Latitude: 1750' Feet South of 40 Deg.		n. <sup>30</sup> Se	ec.	<del></del> .
Longitude 11340' Feet West of 80 Deg.		1. 30 Se		
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	13 3/8"	357'	357'	409 Cu. Ft.
Agent: Eric Gillespie	9 5/8"	1576'	1576'	785 Cu. Ft.
Inspector: Bill Hendershot	5 1/2"	9283'	9283'	2245 Cu. Ft.
Date Permit Issued: 7-26-2011				
Date Well Work Commenced: 11-6-2011				
Date Well Work Completed: 6-29-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 5915'				
Total Measured Depth (ft): 9287'				
Fresh Water Depth (ft.): 73', 250'				
Salt Water Depth (ft.): 1126'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 319'				
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay z  Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow 1.653* MCF/d Final open flow Time of open flow between initial and final tests 55	one depth (ft) 6 ow Bb Bb	,145'-9,155' ol/d l/d	ata on separate sh	neet)
Static rock Pressure 3,825° psig (surface pressure) aft		*Calculated s	<b>ラビク</b> 性	AR III
Second producing formation Pay zon  Gas: Initial open flow MCF/d Oil: Initial open flow  Final open flow MCF/d Final open flow  Time of open flow between initial and final tests	owBb		SEP ?	g 2012
Static rock Pressure psig (surface pressure) after	erHour	s E	ักงแบบแบบเ	iai Protection

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Mantent Williams

9-27-2012 Date

Were core samples taken? Ye	sNo_X	Were cut	tings caught during dri	lling? Yes	No_X
Were Electrical, Mechanical or	Geophysical logs record	led on this well? If ye	s, please list GR LWE	) from 5,295' -	9,226' MD
NOTE: IN THE AREA IS FRACTURING OR STIMULI DETAILED GEOLOGICAL COAL ENCOUNTERED BY	LATING, PHYSICAL L RECORD OF THE	CHANGE, ETC. 2). TOPS AND BOTT	THE WELL LOG W OMS OF ALL FO	HICH IS A SY	STEMATIC
Perforated Intervals, Fracturing	, or Stimulating:				
(See Attached)				· · · · · · · · · · · · · · · · · · ·	
Plug Back Details Including Plu	ng Type and Depth(s):				
Formations Encountered: Surface:		Top Depth	/	Bottom D	epth
(See Attached)					
					····

•

Well Number and Name: 833685 Brooke County Parks BRK 3H

PERFO	RATION RE				•	STIMULAT	ION RECOR	RD.	· · · · · · · · · · · · · · · · · · ·	
		erforated				F	luid	Propp	ing Agent	Average
Date	From		Date		Treated	Туре	Amount	Туре	Amount	Injection
6/1/2012	8,625	9,155	6/21/2012	8,625	9,155	Slk wtr	12,697	Sand	619,760	80
6/22/2012	8,006	8,536	6/26/2012	8,006	8,536	Slk wtr	12,897	Sand	620,080	79.8
6/26/2012	7,350	7,917	6/26/2012	7,350	7,917	Slk wtr	17,133	Sand	618,220	79.8
6/27/2012	6,769	7,299	6/27/2012	6,769	7,299	Slk wtr	12,382	Sand	620,020	80
6/27/2012	6,145	6,680	6/29/2012	6,145	6,680	Slk wtr	12,445	Sand	624,100	79.9

### LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 5915 ft TVD @ 6648 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS	0	0	250	250
LS/SS	250	250	319	319
PITTSBURG COAL	319	319	327	327
SS	327	327	1350	1350
BIG INJUN (SS)	1350	1350	1606	1606
SHALE	1606	1606	5758	5724
GENESEO (SH)	5758	5724	5774	5736
TULLY (LS)	5774	5736	5861	5796
HAMILTON (SH)	5861	5796	6140	5896
MARCELLUS (SH)	6140	5896		
TD OF LATERAL	-		9287	5884

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	11-5-2012
API#:	47-009-00124

name: John Good Jr BRK 5H Operator Well No.: 834956				
CATION: Elevation: 1145'	Quadrangle: Bethany  County: Brooke			
District: Buffalo				
	15 Min		c.	<del></del> ·
	Min			
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	13 3/8"	339'	339'	460 Cu. Ft.
Agent: Eric Gillespie	9 5/8"	1736'	1736'	858 Cu. Ft.
Inspector: Bill Hendershot	5 1/2"	9817'	9817'	2470 Cu. Ft.
Date Permit Issued: 1-18-2012				
Date Well Work Commenced: 4-24-2012	***			
Date Well Work Completed: 8-11-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 5898'				
Total Measured Depth (ft): 9818'				
Fresh Water Depth (ft.): 300'				
Salt Water Depth (ft.): 1200'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 288'		ŀ		
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation  Producing formation Marcellus Pay z  Gas: Initial open flow MCF/d Oil: Initial open flow	one depth (ft)	ude additional c 6,250-9,679 Bbl/d bl/d	lata on separate s	heet)
Final open flow 2.143* MCF/d Final open flow Time of open flow between initial and final tests 54				~ 0
Static rock Pressure <sup>3,808*</sup> psig (surface pressure) aft				0FF11 2017
Second producing formation Pay zon  Gas: Initial open flow MCF/d Oil: Initial open flow  Time of open flow between initial and final tests	ne depth (ft)	Bbl/d bl/d		OFFICE OF OIL & GAS

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marling Williams
Signature

1 <u>- 9-2013</u> Date

Were core samples taken? YesNo_N	Were cuttings caught during drilling? Yes Y No
Were Electrical, Mechanical or Geophysical logs recorded on to open hole logs run from 0-1764' MD; GR MWD from 5,362'-9,818' MD	his well? If yes, please list GR, neutron, density, and resistivity
FRACTURING OR STIMULATING, PHYSICAL CHAN	OWING: 1). DETAILS OF PERFORATED INTERVALS, GE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC S AND BOTTOMS OF ALL FORMATIONS, INCLUDING SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
(See attached)	
Plug Back Details Including Plug Type and Depth(s):	
Formations Encountered: Top D Surface:	epth / Bottom Depth
Darrace.	
(See attached)	

Well Number and Name: 834956 John Good Jr. BRK 5H

PERFO	RATION RE		STIMULATION RECORD							
	Interval P	erforated				F	luid	Propp	ing Agent	Average
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
6/29/2012	9,060	9,679	8/6/2012	9,060	9,679	Slk wtr	13,977	Sand	823,500	80
8/7/2012	8,745	8,999	8/7/2012	8,745	8,999	Sik wtr	8,407	Sand	362,420	72
8/7/2012	8,433	8,683	8/7/2012	8,433	8,683	Slk wtr	6,640	Sand	361,830	80
8/7/2012	8,121	8,371	8/8/2012	8,121	8,371	Slk wtr	6,975	Sand	362,470	79
8/8/2012	7,809	8,059	8/8/2012	7,809	8,059	Sik wtr	6,539	Sand	363,140	80
8/8/2012	7,497	7,747	8/9/2012	7,497	7,747	Sik wtr	6,719	Sand	363,460	80
8/9/2012	7,185	7,435	8/10/2012	7,185	7,435	Slk wtr	6,622	Sand	360,660	79
8/10/2012	6,873	7,123	8/11/2012	6,873	7,123	Slk wtr	6,777	Sand	358,400	80
8/11/2012	6,561	6,811	8/11/2012	6,561	6,811	Sik wtr	6,536	Sand	361,140	80
8/11/2012	6,250	6,499	8/11/2012	6,250	6,499	Sik wtr	6,709	Sand	363,580	80

### LATERAL WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 5898 ft TVD @ 7763 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS/SH	0	0	288	288
PITTSBURG COAL	288	288	293	293
LS	293	293	420	420
SS	420	420	450	450
LS/SS	450	450	650	650
LS/SS/SH	650	650	810	810
SS/SH	810	810	1300	1300
BIG LIME	1300	1300	1390	1390
BIG INJUN (SS)	1390	1390	1510	1510
SHALE	1510	1510	5892	5702
GENESEO (SH)	5892	5702	5909	5715
TULLY (LS)	5909	5715	6000	5778
HAMILTON (SH)	6000	5778	6183	5866
MARCELLUS (SH)	6183	5866		
TD OF LATERAL			9818	5858

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	10/7/12	
API#:	47-039-05763	

m name: Pugh	Operator Well No.: Pugh #2		· ·		
CATION: Elevation: 883.19'	Quadrangle: Pocatalico				
District: Union	County: Kana	County: Kanawha			
	. <u> </u>	الالالالالالالالالالالالالالالالالالال			
Longitude 2908 Feet West of 81 Dep	g. <u>40</u> Min	n. <u> </u>	ec.		
Company: Viking Energy Corp.				_	
Address: 8113 Sissonville Drl	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Charleston, WV 25320					
Agent: Michael Pinkerton					
Inspector: Terry Urban	13 3/8"	30'	30'	225-sx	
Date Permit Issued: 11/30/2011	9 5/8"	300'	300'	225-sx	
Date Well Work Commenced: 5/10/12	7"	2008'	2008"	150-SX	
Date Well Work Completed: 6/10/12	4 1/2"	4,500'	4,500'	250-SX	
Verbal Plugging:					
Date Permission granted on:					
Rotary Cable Rig V					
Total Vertical Depth (ft): 4,922					
Total Measured Depth (ft): 4,922					
Fresh Water Depth (ft.): 130					
Salt Water Depth (ft.): 1300					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.):					
Void(s) encountered (N/Y) Depth(s) N				<u> </u>	
OPEN FLOW DATA (If more than two producing format	tions please incluy zone depth (ft)		data on separate s	sheet)	
Gas: Initial open flow 20 MCF/d Oil: Initial open	flow 0 B	Bbl/d			
Final open flow 20 MCF/d Final open flo		bl/d			
Time of open flow between initial and final tests 24 Static rock Pressure 250 psig (surface pressure)					
Static rock Pressurepsig (surface pressure)	alterIIOt	113			
•	cone depth (ft) 22				
Gas: Initial open flow 20 MCF/d Oil: Initial open		Bbl/d		<b>RECEIVED</b> WV DEP	
Final open flow 20 MCF/d Final open flo		bl/d			
Time of open flow between initial and final tests 24 Static rock Pressure 250 psig (surface pressure)					

all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. Michael Pinkerto Signature

Were core samples taken? Yes	No_X	Were c	uttings caught	during drilling? Yes_	No_N
Were Electrical, Mechanical or Geo	ophysical logs record	led on this well? If	yes, please lis	Photo Density Log	]
NOTE: IN THE AREA BEL FRACTURING OR STIMULAT DETAILED GEOLOGICAL R COAL ENCOUNTERED BY TH	TING, PHYSICAL ECORD OF THE	CHANGE, ETC. 2 TOPS AND BO	2). THE WEL TTOMS OF	L LOG WHICH IS A ALL FORMATIONS	SYSTEMATIC
Perforated Intervals, Fracturing, or	Stimulating:				
Perforate Berea w/16 shots from	m 2374-2382 KB	2 shots per ft. Br	reak w/ 10bb	ols treated water. Sta	art pad & pump
as per enclosed schedule. Flus	sh w/300 gal 15%	Hcl (Drop 3 3/4 b	oall after 2 b	bls acid) & 28.9 bbls	treated water,
land ball on 3.562 baffle @ 23	342' KB.				
Perforated Welch w/13 shot (SF) fro	om 2270-2330" KB.	Break w/5 bbls wat	ter & continue	stimulation as per enlo	losed schedule.
Flush 1 bbl short of top perf S	SD take ISIP 5 m	nin and 10 min			
Plug Back Details Including Plug T	ype and Depth(s):	Set a retrievable	e plug belov	v the Berea fracke	ed formation.
Set another retrievable plug belo	ow the welch at 2	340' and fracked	formation. w	ent back in and retri	eved the plugs.
Formations Encountered:		Top Depth		Botto	m Depth
Surface:					
Attachuel					·····
				:	
					<del></del> .

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Page 2

AALC - 22	Paye /
Rev (5-01)	

Date:	
API#	47-039-05763

#### State of West Virginia **Department of Environmental Protection** Office of Oil & Gas

Operators well name:	Pugh # 2		
Farm Name:			
Company:			

#### **GEOLOGICAL RECORD**

Description:	Тор	Bottom
Clay/ sand	0	9
Sand/shales/silt	9	610
Sandy shales	610	718
Silty sand	718	800
Shale/sand/silts	800	1200
Salt Sand	1200	1531
Shale	1531	1600
Sand / some shaley stringers	1600	1750
Lime	1750	1780
Big Lime	1780	1950
Injun	1950	1931
Sandy shales	1931	2352
Cofffe shale	1931	2373
Berea	2373	2381
Shale	2381	3591
Huron shale	3591	4320
Shale	4320	4560
Rhinestreet	4560	4814
Shale	4814	4840
Marcellus Shale	4840	4902
Onandaga	4902	4923

#### **Additional Comments:**

Marcellus 1st Stg: Perforated w/ 22 shots (SF) 4846 - 4898' KB. (300 gal 10% Hcl). Total N2 - 902 mcf. Stg 2 Rhinestreet. Perf w/ 20 shots (SF) from 4622 - 4734' KB. Pump 350 gal 7 1/2% Hcl acid. 800 mcf N2. Stg 3 Huron/Dev. Shale. Perforate w/ 51 shots (SF) 3080 - 4166' KB. Pump 500 gal 7 1/2% Hcl acid. Total N2 Stg 4 1,001.6 mcf.

Berea; perf w/ 16 shots from 2374 - 2382' KB. 75Q foam. 350 gals 15% Hcl acid. Could not get frac ball to hold. SD. Did not treat.

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	1-26-2012	
API#:	47-041-05593	REVISED

Farm name: Lloyd McCauley	_ Operator We	ll No.: 3H (8316	01)	
LOCATION: Elevation: 1451'	Quadrangle:	Walkersville	<del></del>	
District: Collins Settlement  Latitude: 3.420' Feet South of 38 Deg	County: Lewi	s 1. <sup>00</sup> Se	С.	
Longitude 9860' Feet West of 80 De	g. <sup>25</sup> Mir	ı. <u>00</u> Se	c.	
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	13 3/8"	605'	605'	649 cf
Agent: Eric Gillespie	9 5/8"	1731'	1731'	774 cf
Inspector: Bryan Harris	7"	7215'	7215'	629 cf
Date Permit Issued: 11/17/2009	4 1/2"	10698'	4768.64'	529 cf
Date Well Work Commenced: 1/6/2010				
Date Well Work Completed: 8/23/2010				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6,886'				
Total Measured Depth (ft): 10,708'				
Fresh Water Depth (ft.): 475'				
Salt Water Depth (ft.): None				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None				
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation Marcellus Pay Gas: Initial open flow 2,027 MCF/d Oil: Initial open	zone depth (ft)		lata on separate s	heet)
Final open flow MCF/d Final open flo		bl/d		·
Time of open flow between initial and final tests		· ·	PE(	CEIVED
Static rock Pressure 3,099 psig (surface pressure)	afterHou	ırs	Office of	of Oil & Gas
Second producing formation Pay z	• • •		MAR	2 0 2012
Gas: Initial open flow MCF/d Oil: Initial open		bl/d		
Final open flowMCF/d Final open flowMcF/d Final open flow between initial and final tests		bl/d s	_ W Dep	eriment of
Static rock Pressure psig (surface pressure)		ırs	Environme	ital Protection

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marley William 3402 Signature Date

Were core samples taken? Yes	No_X We	re cuttings caught during d	rilling? Yes_X	_ No
Were Electrical, Mechanical or Geophys	ical logs recorded on this well?	If yes, please list Mecha	nical	
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	, PHYSICAL CHANGE, ETC PRD OF THE TOPS AND ELLBORE FROM SURFAC	C. 2). THE WELL LOG ' BOTTOMS OF ALL FO	WHICH IS A SY	STEMATIC
Perforated Intervals, Fracturing, or Stimu	ılating:			
See Attached				
			<del></del>	
Plug Back Details Including Plug Type a	nd Depth(s): PBTD - Cem	ent @ 12,280'		
Formations Encountered: Surface:	Top Depth		Bottom D	epth
See Attached				
				, - 1,
			RECEN Office of Oi	L& Gas
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		E	vironmania	<del>i i reccasie</del> t

Formation/Lithology	Top Depth (ft)	Bottom Depth (ft)
SHALE/SS	0	300
LS/SS	300	600
SHALE	600	800
SS/LS	800	900
SHALE	900	1060
SS	1060	1371
LS	1371	1443
Big Lime	1443	1994
First Sand	1994	2519
Lower Huron	2519	2992
Ball Town	2992	3993
Benson	3993	5243
Elk	5243	6502
Middlesex	6502	6712
Geneseo	6712	6752
Tully	6752	6774
Hamilton	6774	6843
Marcellus	6843	6873
Lower Marcellus	6873	10708

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MAR 2 0 2012

WV Department of \_ Environmental Protection

Well Name and Number: Lloyd McCauley 3H (831601)

PERFO	RATION RI	ECORD	STIMULATION RECORD							
	Interval P	erforated				Flu	ıid	Proppi	ing Agent	Average
Date	From	То	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
8/10/2010	10,136	10,558	8/10/2010	10,136	10,558	Slk Wtr	11,659	Sand	314,532	83
8/18/2010	9,736	10,058	8/18/2010	9,736	10,058	Slk Wtr	7,109	Sand	320,431	82
8/19/2010	9,336	9,658	8/19/2010	9,336	9,658	Slk Wtr	8,431	Sand	408,478	85
8/19/2010	8,936	9,258	8/19/2010	8,936	9,258	Slk Wtr	7,739	Sand	409,203	85
8/20/2010	8,616	8,858	8/20/2010	8,616	8,858	Slk Wtr	5,635	Sand	324,447	80
8/20/2010	8,296	8,538	8/20/2010	8,296	8,538	Slk Wtr	6,758	Sand	326,533	86
8/22/2010	7,896	8,218	8/22/2010	7,896	8,218	Slk Wtr	7,482	Sand	398,189	85
8/21/2010	7,496	7,818	8/21/2010	7,496	7,818	Slk Wtr	8,230	Sand	330,729	83
8/23/2010	7,096	7,418	8/23/2010	7,096	7,418	Slk Wtr	7,708	Sand	407,484	82
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Office of Oil & Gas

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WV Department of Environmental Protection

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	1-26-2012	
API#:	47-049-02110	

Farm name: Edwin Bunner	Operator Well No.: 8H (832110)				
LOCATION: Elevation: 1469'	_ Quadrangle: Gladesville				
District: Winfield  Latitude: 6914' Feet South of 39 Deg.				<del></del>	
Longitude 3577 Feet West of 80 Deg	. <u>57</u> Mir	1. 30 Se	С.		
Company: Chesapeake Appalachia, L.L.C.					
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	13 3/8"	443'	443'	537 cf	
Agent: Eric Gillespie	9 5/8"	2875'	2875'	1350 cf	
Inspector: Tristan Jenkins	5 1/2"	13035'	13035'	2890 cf	
Date Permit Issued: 6/28/2010					
Date Well Work Commenced: 2/21/2011					
Date Well Work Completed: 5/13/2011					
Verbal Plugging:					
Date Permission granted on:					
Rotary 🗸 Cable 🔲 Rig 🗌					
Total Vertical Depth (ft): 7,310'					
Total Measured Depth (ft): 13,038'			i		
Fresh Water Depth (ft.): 350'					
Salt Water Depth (ft.): None					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): None					
Void(s) encountered (N/Y) Depth(s) N					
OPEN FLOW DATA (If more than two producing formati	zone depth (ft)	7,444'-12,966'	_		
Final open flow MCF/d Final open flo		ol/d	DE AC	Section Report to	
Time of open flow between initial and final tests		3			
Static rock Pressure 4.752 psig (surface pressure) a	ırs	" " " CS OI	- 10		
Second producing formation Pay 20	one depth (ft)		O'lle	30	
Gas: Initial open flowMCF/d Oil: Initial open	flowB	bl/d	KIL.	100 C	
Final open flow MCF/d Final open flo		ol/d	. برغ <sup>لا</sup>	CHANGE AND	
Time of open flow between initial and final tests		ire	All a	W.C.z.	
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I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlens Williams

3-19-201 ) Date

Were core samples taken? Yes	No N	Were cu	uttings caught d	uring drilling?	Yes Y No
Were Electrical, Mechanical or Copen hole logs run from 0-7560' MD; LWD Copen	Geophysical logs record	ed on this well? If y	yes, please list_	SR, neutron, de	ensity, and resistivity
NOTE: IN THE AREA BEFRACTURING OR STIMUL DETAILED GEOLOGICAL COAL ENCOUNTERED BY	ATING, PHYSICAL RECORD OF THE	CHANGE, ETC. 2 TOPS AND BOT	). THE WELL FTOMS OF A	LOG WHICH	IS A SYSTEMATIC
Perforated Intervals, Fracturing,	or Stimulating:				
See Attached					
		· · · · · · · · · · · · · · · · · · ·	· - · · · · · · · · · · · · · · · · · ·		
	<del></del>				
Plug Back Details Including Plug	g Type and Depth(s):	BTD cement (	@ 12,886'		
Formations Encountered: Surface:		Top Depth	/		Bottom Depth
See Attached					
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				Office Why	O'COL STOCK
				Office "INE S	Article Comments
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Formation/Lithology	Top Depth (ft)	Bottom Depth (ft)
SS/SHALE	0	460
SHALE	460	640
SS	640	740
LS	740	899
Big Lime	899	995
Big Injun	995	1050
SHALE/SS	1050	1193
Berea	1193	1222
SHALE	1222	1440
SHALE/SS	1440	1640
SS	1640	1660
SHALE	1660	1920
SS	1920	2040
SHALE/SILT	2040	7160
Geneseo	6920	6974
Tully	6974	7048
Hamilton	7048	7319
Marcellus	7319	13038

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Well Name and Number: Edwin Bunner 8H (832110)

PERFO	RATION R	ECORD	STIMULATION RECORD							
	Interval P	erforated					Fluid		Propping Agent	
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
4/29/2011	12,644	12,966	4/29/2011	12,644	12,966	Slk Wtr	14,306	Sand	602,833	63.0
4/30/2011	12,244	12,566	4/30/2011	12,244	12,566	Slk Wtr	14,509	Sand	531,250	84.0
5/1/2011	11,844	12,166	5/1/2011	11,844	12,166	Slk Wtr	17,143	Sand	545,994	81.0
5/2/2011	11,444	11,762	5/2/2011	11,444	11,762	Slk Wtr	12,876	Sand	604,935	84.0
5/3/2011	11,042	11,366	5/3/2011	11,042	11,366	Slk Wtr	12,605	Sand	602,436	83.0
5/4/2011	10,646	10,966	5/4/2011	10,646	10,966	Slk Wtr	12,829	Sand	598,275	85.0
5/5/2011	10,244	10,566	5/5/2011	10,244	10,566	Slk Wtr	12,700	Sand	599,394	85.0
5/6/2011	9,844	10,166	5/6/2011	9,844	10,166	Slk Wtr	12,440	Sand	598,618	86.0
5/6/2011	9,444	9,766	5/6/2011	9,444	9,766	Slk Wtr	11,541	Sand	489,725	88.0
5/7/2011	9,044	9,366	5/7/2011	9,044	9,366	Slk Wtr	13,033	Sand	596,344	81.0
5/7/2011	8,644	8,966	5/7/2011	8,644	8,966	Slk Wtr	11,688	Sand	560,675	82.0
5/8/2011	8,244	8,566	5/8/2011	8,244	8,566	Slk Wtr	12,375	Sand	598,700	85.0
5/13/2011	7,844	8,166	5/13/2011	7,844	8,166	Slk Wtr	14,551	Sand	602,042	80.0
5/13/2011	7,444	7,764	5/13/2011	7,444	7,764	Slk Wtr	11,161	Sand	595,057	85.0
				•						
	·									
						<u> </u>				

Chick of the South State of St

Coal Depths (ft.): 508'

Void(s) encountered (N/Y) Depth(s) Y 508'

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-14-2012	
API #:	47-049-02159	J.
		7

Farm name: Quality Reclamation 8H	Operator Well No.: 833342				
LOCATION: Elevation: 1230'	Quadrangle:	Grant Town			
District: Paw Paw	County: Mario	on			
	g. <u>35</u> Mir	n. 00 Sec	÷.	<del></del>	
Longitude 11035' Feet West of 80 De	eg. <u>07</u> Min	ı. <u>30</u> Sed	<b>.</b> .		
Company: Chesapeake Appalachia, L.L.C.  P.O. Box 18496	Casing &	Used in	Left in well	Cement fill	
Address:	Tubing	drilling	<del> </del>	up Cu. Ft.	
Oklahoma City, OK 73154-0496	20"	120'	120'	286 Cu. Ft.	
Agent: Eric Gillespie	13 3/8"	553'	553'	623 Cu. Ft.	
Inspector: Bill Hendershot	9 5/8"	3208'	3208'	1493 Cu. Ft.	
Date Permit Issued: 12-20-2011	5 1/2"	15440'	15440'	3115 Cu. Ft.	
Date Well Work Commenced: 3-18-2012					
Date Well Work Completed: 4-16-2012					
Verbal Plugging:					
Date Permission granted on:		DEACH			
Rotary Cable Rig	0	RECENTION OF OF	ED.		
Total Vertical Depth (ft): 7988'(cement plug @ 7068' - 798	(0')	In to some	व प्रसंड		
Total Measured Depth (ft): 15443'		SEP 17 2	012		
Fresh Water Depth (ft.): 350'	144	1			
Salt Water Depth (ft.): None	Fnvir	y Departn	ent of rotection		
Is coal being mined in area (N/Y)? N	-11VII(	annental F	rotection	<u> </u>	

Producing formation Marcellus			e additional data on separate sheet)
Gas: Initial open flow	MCF/d Oil: Initial	open flowBbl	/d
Final open flow 2,237*	MCF/d Final or	en flow 0 Bbl/	d
Time of open flow betwee	n initial and final te	sts 39 Hours	*Calculated
Static rock Pressure 5,073*	_psig (surface pres	sure) afterHours	
Second producing formation_		Pay zone depth (ft)	
Gas: Initial open flow	MCF/d Oil: Initial	open flowBbl	/d
Final open flow	MCF/d Final op	en flowBbl/	d
Time of open flow between	n initial and final te	stsHours	
Static rock Pressure	neia (curface pres	cure) after Hours	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlon Williams

9-KI-DYD

Were core samples taken? Yes_X No	Were cuttings caught during drilling? YesNo_X
Were Electrical, Mechanical or Geophysical logs recorded on this open hole logs run from 0' - 7,988'- MD; LWD GR from 7,086' - 15,396' MD.	well? If yes, please list GR, neutron, density, and resistivity
NOTE: IN THE AREA BELOW PUT THE FOLLOW FRACTURING OR STIMULATING, PHYSICAL CHANGE DETAILED GEOLOGICAL RECORD OF THE TOPS A COAL ENCOUNTERED BY THE WELLBORE FROM SUR	E, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC AND BOTTOMS OF ALL FORMATIONS. INCLUDING
Perforated Intervals, Fracturing, or Stimulating:	
(See Attached)	
Plug Back Details Including Plug Type and Depth(s): Cement	plua @ 7068' - 7980'
Formations Encountered: Top Depth Surface:	h / Bottom Depth
(See Attached)	

Well Number and Name: 833342 Quality Reclamation 8H

PERFO	RATION RE	CORD	STIMULATION RECORD							
		erforated				F	luid	Proppi	ing Agent	Average
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
<i>5/7/</i> 2012	14,737	15,310	5/21/2012	14,737	15,310	Sik wtr	12,198	Sand	614,380	80
5/21/2012	14,068	14,656	5/21/2012	14,068		Sik wtr	12,541	Sand	617,480	79
5/21/2012	13,400	13,995	5/22/2012	13,400	13,995	Slk wtr	12,625	Sand	611,360	80
5/22/2012	12,733	13,321	5/22/2012	12,733	13,321	Slk wtr	12,378	Sand	610,840	79
5/22/2012	12,065	12,654	5/23/2012	12,065	12,654	Slk wtr	12,343	Sand	612,040	80
5/23/2012	11,398	11,986	5/24/2012	11,398	11,986	Slk wtr	12,171	Sand	614,040	77
5/24/2012	10,730	11,319	5/25/2012	10,730	11,319	Slk wtr	12,509	Sand	613,680	80
5/25/2012	10,063	10,651	5/29/2012	10,063	10,651	Sik wtr	12,198	Sand	612,200	80
5/29/2012	9,395	9,984	5/29/2012	9,395	9,984	Slk wtr	14,233	Sand	503,700	69
5/30/2012	8,728	9,316	5/30/2012	8,728	9,316	Slk wtr	11,965	Sand	608,700	80
5/30/2012	8,060	8,649	5/31/2012	8,060	8,649	Slk wtr	11,868	Sand	615,980	80

#### **VERTICAL PILOT HOLE**

Formation/Lithology	Top Depth, TVD/MD (ft)	Bottom Depth, TVD/MD (ft)
SS	0	400
LS	400	500
SS	500	600
LS	600	750
SS	750	850
SILTSTONE	850	1300
SH	1300	1330
SS	1330	1420
SH	1420	1450
SS	1450	1600
SILTSTONE	1600	1613
BIG INJUN (SS)	1613	1810
LS	1810	2020
SH	2020	2110
BEREA (SS)	2110	3152
SH/SILTSTONE	3152	7218
GENESEO	7218	7270
TULLY	7270	7327
HAMILTON	7327	7735
MARCELLUS	7735	7849
ONONDAGA (LS)	7849	
TD OF PILOT HOLE		7988

### LATERAL SIDETRACK WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SS	0	0	400	400
LS	400	400	500	500
SS	500	500	600	600
LS	600	600	750	750
SS	750	750	850	850
SILTSTONE	850	850	1300	1300
SH	1300	1300	1330	1330
SS	1330	1330	1420	1420
SH	1420	1420	1450	1450
SS ·	1450	1450	1600	1600
SILTSTONE	1600	1600	1613	1613
BIG INJUN (SS)	1613	1613	1810	1810
LS	1810	1810	2020	2020
SH	2020	2020	2110	2110
BEREA (SS)	2110	2110	3152	3152
SH/SILTSTONE	3152	3152	7513	7504
GENESEO	7513	7504	7570	7556
TULLY	7570	7556	7633	7609
HAMILTON	7633	7609	7864	7761
MARCELLUS	7864	7761		
TD OF LATERAL			15443	7802

#### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-13-2012	Ć
API #:	47-049-02186	

Farm name: Wesbanco Bank MRN	Oper	Operator Well No.: 834043				
LOCATION: Elevation: 1257'	Quadrangle: Rivesville					
District: Winfield		Coun	nty: Marion			
Latitude: 7566'	Feet South of 39	Deg. 32	Min. 30	Sec.		
Longitude <sup>2403</sup>	Feet West of 80	Deg. 02	Min. 30	Sec.		

Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	124'	124'	224 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	303'	303'	331 Cu. Ft.
Inspector: Sam Ward	9 5/8"	2826'	2826'	1332 Cu. Ft.
Date Permit Issued: 1-10-2012	5 1/2"	12516'	12516'	2380 Cu. Ft.
Date Well Work Commenced: 2-18-2012				
Date Well Work Completed: 6-9-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 7860'(cement plug@ 7023'-7844')				
Total Measured Depth (ft): 12520'				
Fresh Water Depth (ft.): 220'				
Salt Water Depth (ft.): 1200'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 227'				
Void(s) encountered (N/Y) Depth(s) Y 227'				

•	nan two producing formations pie			separate sneet)
Producing formation Marcellu	Pay zone d	epth (ft)_ <sup>7,975'-1</sup>	12,388'	
Gas: Initial open flow	_MCF/d Oil: Initial open flow	Bbl/d		
Final open flow 1,967*	_MCF/d Final open flow 0	Bbl/d		
Time of open flow between	en initial and final tests 77	Hours	*Calculated	and the second s
Static rock Pressure 4.887*	psig (surface pressure) after	Hours		ALCERIA Origo et Origen 2008
				Dipopolitical recognition
Second producing formation	Pay zone dep	th (ft)		
Gas: Initial open flow	_MCF/d Oil: Initial open flow	Bbl/d		SEP 14 2017
Final open flow	_MCF/d Final open flow	Bbl/d		
Time of open flow between	en initial and final tests	Hours		HAN DOWNERS OF THE
Static rock Pressure	psig (surface pressure) after	Hours		WW Double Carbon St.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Were core samples taken? YesNo_X	Were cuttings caught	t during drilling? Yes	No_X
Were Electrical, Mechanical or Geophysical logs record open hole logs run from 0' - 7,860' MD; LWD GR from 7,100' - 12,459' MD.	ed on this well? If yes, please lis	t GR, neutron, density, a	and resistivity
NOTE: IN THE AREA BELOW PUT THE PERSONNEL OF THE PROPERTY OF THE COAL ENCOUNTERED BY THE WELLBORE FI	CHANGE, ETC. 2). THE WEI TOPS AND BOTTOMS OF	L LOG WHICH IS A S ALL FORMATIONS,	YSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:			
(See Attached)			
Phys Book Datails Including Phys Tyme and Double)			
Plug Back Details Including Plug Type and Depth(s): C	ement plug @ 7023' - 7	844'	
Formations Encountered: Surface:	Top Depth /	Bottom	<u>Depth</u>
(See Attached)			
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SEP 14 2012

Well Number and Name: 834043 Wesbanco Bank MRN 8H

PERFO	RATION RE					STIMULAT	TION RECOR	RD	<del></del>	
	Interval P	erforated				F	luid	Propp	ing Agent	Average
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
5/17/2012	11,826	12,388	6/4/2012	11,826	12,388	Slk wtr	11,912	Sand	640,100	74
6/4/2012	11,185	11,747	6/5/2012	11,185	11,747	Slk wtr	13,373	Sand	641,860	75
6/5/2012	10,544	11,106		10,544	11,106	Sik wtr	12,431	Sand	640,940	71
6/7/2012	9,898	10,465	6/7/2012	9,898	10,465	Slk wtr	13,766	Sand	638,620	74
6/7/2012	9,262	9,819	6/8/2012	9,262	9,819	Slk wtr	11,817	Sand	640,840	79
6/8/2012	8,621	9,183	6/8/2012	8,621	9,183	Slk wtr	11,736	Sand	640,440	75
6/8/2012	7,975	8,542	6/9/2012	7,975	8,542	Slk wtr	11,446	Sand	640,500	80
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#### VERTICAL PILOT HOLE

Formation/Lithology	Top Depth, TVD/MD (ft)	Bottom Depth, TVD/MD (ft)
LS/SS	0	227
COAL	227	235
LS/SS	235	360
SH/SILTSTONE	360	390
LS	390	420
SH	420	450
SS	450	480
SH/SILTSTONE	480	510
SILTSTONE	510	570
SS	570	630
SH/SILTSTONE	630	690
SS	690	750
LS/SH/SS	750	780
SH	780	810
SH/SILT/SS	810	960
SS	960	1140
SH/SS	1140	1260
SS	1260	1350
SH/SS	1350	1380
LS/SH/SS	1380	1410
BIG LIME (LS)	1410	1530
BIG INJUN (SS)	1530	1740
SH/SILT/SS	1740	1985
BEREA (SS)	1985	2650
SHALE/SILTSTONE	2650	7369
GENESEO	7369	7404
TULLY	7404	7467
HAMILTON	7467	7662
MARCELLUS	7662	7782
CNONDAGA (LS)	7782	
TD OF PILOT HOLE		7860

LATERAL SIDETRACK
WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS	0	0	227	227
COAL	227	227	235	235
LS/SS	235	235	360	360
SH/SILTSTONE	360	360	390	390
នេ	390	390	420	420
SH	420	420	450	450
SS	450	450	480	480
SH/SILTSTONE	480	480	510	510
SILTSTONE	510	510	570	570
SS	570	570	630	630
SH/SILTSTONE	630	630	690	690
SS	690	690	750	750
LS/SH/SS	750	750	780	780
SH	780	780	810	810
SH/SILT/SS	810	810	960	960
SS	960	960	1140	1140
SH/SS	1140	1140	1260	1260
SS	1260	1260	1350	1350
SH/SS	1350	1350	1380	1380
LS/SH/SS	1380	1380	1410	1410
BIG LIME (LS)	1410	1410	1530	1530
BIG INJUN (SS)	1530	1530	1740	1740
SH/SILT/SS	1740	1740	1985	1985
BEREA (SS)	1985	1985	2650	2650
SH/SILTSTONE	2650	2650	7359	7348
GENESEO	7359	7348	7410	7395
TULLY	7410	7395	7533	7504
HAMILTON	7533	7504	7731	7645
MARCELLUS	7731	7645	7731	7645
TD OF LATERAL				
			12520	7524

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## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	2-8-2012	
API#:	47-051-01296	

Farm name: Shawn Harlan	Operator Well No.: 3H (831189)				
LOCATION: Elevation: 1397'	_ Quadrangle:	Littleton			
District: Liberty	_ County: Mars	hall			
<del></del>	g. 45 Mir	n. 00 S	ec.		
	g. 37 Mir		ec.		
Company: Chesapeake Appalachia, L.L.C.					
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	13 3/8"	1242'	1242'	1352 cf	
Agent: Eric Gillespie	9 5/8"	2715'	2715'	856 cf	
Inspector: Bill Hatfield	5 1/2"	11911'	11911'	2838 cf	
Date Permit Issued: 8/25/2009					
Date Well Work Commenced: 2/13/2011					
Date Well Work Completed: 4/28/2011					
Verbal Plugging:					
Date Permission granted on:					
Rotary Cable Rig					
Total Vertical Depth (ft): 7,153'					
Total Measured Depth (ft): 11,914'					
Fresh Water Depth (ft.): 395'					
Salt Water Depth (ft.): N/A					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): 450'					
Void(s) encountered (N/Y) Depth(s) N					
OPEN FLOW DATA (If more than two producing formation)	tions please inch	ide additional	data on separate s	sheet)	
	y zone depth (ft)			,	
Gas: Initial open flow 7,724 MCF/d Oil: Initial open	•				
Final open flowMCF/d Final open flo	owB	bl/d		A Land Williams	
Time of open flow between initial and final tests			Office o	i Oil & Gas	
Static rock Pressure 4.649 psig (surface pressure)	afterHou	ırs	1145	a 5 0045	
Second producing formation Pay 2	zone denth (ft)		MAK	2 0 2012	
Gas: Initial open flowMCF/d Oil: Initial open		Bbl/d	\AA / Fi	ng and Sandria (and and and and and and and and and and	
Final open flow MCF/d Final open flow			WV Department of Environmental Protectio		
Time of open flow between initial and final tests_			Eunionus	mai Proteonar	
Static rock Pressurepsig (surface pressure)					
I certify under penalty of law that I have personally examine	d and am familia	ar with the inf	ormation submitte	d on this document an	
all the attachments and that, based on my inquiry of those in	dividuals immed	iately respons	ible for obtaining	the information I belie	
that the information is true, accurate, and complete.					

Were core samples taken? YesNo_N	Were cuttings ca	ught during drilling?	/es_YNo
Were Electrical, Mechanical or Geophysical logs recorded or open hole logs run from 0-7014' MD; LWD GR from 6600-11914' MD.	this well? If yes, pleas	e list GR, neutron, de	nsity, and resistivity
NOTE: IN THE AREA BELOW PUT THE FOLI FRACTURING OR STIMULATING, PHYSICAL CHA DETAILED GEOLOGICAL RECORD OF THE TO COAL ENCOUNTERED BY THE WELLBORE FROM	NGE, ETC. 2). THE V PS AND BOTTOMS	VELL LOG WHICH OF ALL FORMAT	IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:			
See Attached			
Plug Back Details Including Plug Type and Depth(s): Cem	ent -11 816'		
o com	0111,010		
_		_	n
Formations Encountered: Top Surface:	Depth /	<u></u>	Bottom Depth
See Attached	<u>:</u>		
			<del></del>
		CAN SERVICE OF	O'B'S
		Elit Cot Oil	<u> </u>
		Office 198 20	- digion
		MI.	Mary Villa
		Chice of Oliver	31.1 m

Formation/Lithology	Top Depth (ft)	Bottom Depth (ft)
SHALE/LS	0	450
SS	450	510
COAL	510	540
SHALE/SS	540	850
LS/SHALE	850	1105
Pittsburg Coal	1105	1125
LS/SHALE	1125	1160
SHALE	1160	1680
COAL	1680	1710
SHALE	1710	2150
SHALE/SS	2150	2236
Big Lime	2236	2268
Big Injun	2268	2506
SHALE/SS	2506	7040
Geneseo	7040	7061
Tully	7061	7170
Hamilton	7170	7268
Marcellus	7268	11914

Office of Oil & Anna

Well Name and Number: Shawn Harlan 3H (831189)

PERFOR	PERFORATION RECORD STIMULATION RECORD									
	Interval P	erforated				Fluid		Propping Agent		Average
Date	From	To	Date	Interval	Treated	Туре	Amount	Type	Amount	Injection
4/20/2011	7,444	7,686	4/28/2011	7,444	7,686	Slk Wtr	11,232	Sand	483,163	83
4/20/2011	7,844	8,086	4/20/2011	7,844	8,086	Slk Wtr	10,747	Sand	484,870	82
4/19/2011	8,244	8,486	4/20/2011	8,244	8,486	Slk Wtr	10,486	Sand	488,733	86
4/19/2011	8,564	8,886	4/19/2011	8,564	8,886	Slk Wtr	12,659	Sand	486,470	85
4/18/2011	8,904	9,226	4/19/2011	8,904	9,226	Slk Wtr	9,940	Sand	425,108	85
4/18/2011	9,364	9,546	4/18/2011	9,364	9,546	Slk Wtr	9,846	Sand	276,480	84
4/18/2011	9,604	9,786	4/18/2011	9,604	9,786	Slk Wtr	9,401	Sand	387,861	85
4/17/2011	9,840	10,026	4/18/2011	9,840	10,026	Slk Wtr	9,317	Sand	390,926	84
4/17/2011	10,080	10,266	4/17/2011	10,080	10,266	Slk Wtr	10,495	Sand	356,668	74
4/16/2011	10,324	10,506	4/17/2011	10,324	10,506	Slk Wtr	9,434	Sand	389,955	79
4/13/2011	10,562	10,806	4/14/2011	10,562	10,806	Slk Wtr	9,098	Sand	385,644	75
4/12/2011	10,832	11,124	4/13/2011	10,832	11,124	Slk Wtr	10,712	Sand	401,378	. 74
4/11/2011	11,170	11,446	4/12/2011	11,170	11,446	Slk Wtr	11,195	Sand	384,776	78
4/1/2011	11,524	11,766	4/11/2011	11,524	11,766	Slk Wtr	11,920	Sand	398,945	77

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-11-2012	-
API#:	47-051-01447	

LOCATION: Elevation: 1,181'	Quadrangle: Glen Easton				
District: Cameron	County: Mars	shail			
Latitude: 7,140' Feet South of 39 Deg.	52 Mir	n. 30 Sec.			
Longitude 9,790' Feet West of 80 Deg.	37 Mir	1. 30 Sec.			
Company: Chesapeake Appalachia, L.L.C.			_		
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	20"	88'	88'	297 Cu. Ft.	
Agent: Eric Gillespie	13 3/8"	849'	849'	925 Cu. Ft.	
Inspector: Derek Haught	9 5/8"	2,755'	2,755'	1329 Cu. Ft.	
Date Permit Issued: 4-25-2011	5 1/2"	14,484'	14,484'	3629 Cu. Ft.	
Date Well Work Commenced: 1-10-2012					
Date Well Work Completed: 4-23-2012					
Verbal Plugging:					
Date Permission granted on:					
Rotary Cable Rig		y. An	B Com Con		
Total Vertical Depth (ft): 6,624' (cement plugs @ 5700' & 6121')		2	Viscon OH 3	Carles .	
Total Measured Depth (ft): 14,484'			SEP 12	2012	
Fresh Water Depth (ft.): 200'					
Salt Water Depth (ft.): None			A Depart		
Is coal being mined in area (N/Y)? N		Erw	ommental	-YOU WITH	
Coal Depths (ft.): 780'	<u> </u>				
Void(s) encountered (N/Y) Depth(s) N					
OPEN FLOW DATA (If more than two producing formation	zone depth (ft) flow  59 Hou	tude additional da ) <sup>7.150' - 14,351'</sup> Bbl/d Bbl/d rs *Calculated ours	ita on separate sh	neet)	
Second producing formation Pay zo Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) a	wE Hou	Bbl/d Bbl/d			

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marley Williams
Signature

7-1(-2012) Date

Were core samples taken? YesN	lo_X	Were cuttings caught	during drilling? Yes X NoNo	
Were Electrical, Mechanical or Geophysic Resistivity, Nuclear, Spectral GR, Dipole Sonic, Borehole				
NOTE: IN THE AREA BELOW I FRACTURING OR STIMULATING, DETAILED GEOLOGICAL RECOR COAL ENCOUNTERED BY THE WE	PHYSICAL CHANGE D OF THE TOPS A	, ETC. 2). THE WEL ND BOTTOMS OF	L LOG WHICH IS A SYSTEMA ALL FORMATIONS, INCLUI	ATIC
Perforated Intervals, Fracturing, or Stimula	ating:			
(See Attached)				
Plug Back Details Including Plug Type an	ad Depth(s): Cement	plugs @ 5,700' -	6,600' and 6,121' - 6,841'	
Formations Encountered: Surface:	Top Dept	h /	Bottom Depth	
		-		

Well Number and Name: 833044 Van Aston MSH 1H

PERFO	RATION RE	CORD	STIMULATION RECORD							
	Interval P	erforated				F	luid	Proppi	ing Agent	Average
Date	From	To	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
4/4/2012	13,780	14,351	4/18/2012	13,780	14,351	Slk wtr	11,209	Sand	570,320	77
4/18/2012	13,119	13,688	4/19/2012	13,119	13,688	Slk wtr	9,874	Sand	570,200	81
4/19/2012	12,455	13,030	4/19/2012	12,455	13,030	Slk wtr	9,548	Sand	572,080	76
4/19/2012	11,792	12,362	4/20/2012	11,792	12,362	Slk wtr	9,805	Sand	570,640	83
4/20/2012	11,129	11,699	4/20/2012	11,129	11,699	Slk wtr	9,929	Sand	570,780	85
4/21/2012	10,466	11,036	4/21/2012	10,466	11,036	Sik wtr	9,801	Sand	570,510	84
4/21/2012	9,803	10,370	4/21/2012	9,803	10,370	Sik wtr	9,589	Sand	571,100	84
4/21/2012	9,140	9,709	4/21/2012	9,140	9,709	Slk wtr	11,650	Sand	570,760	86
4/21/2012	8,480	9,047	4/22/2012	8,480	9,047	Slk wtr	9,516	Sand	577,120	85
4/21/2012	7,813	8,383	4/22/2012	7,813	8,383	Sik wtr	9,401	Sand	571,640	85
4/22/2012	7,150	7,717	4/23/2012	7,150	7,717	Slk wtr	9,830	Sand	582,100	84
										<u> </u>
					-			<u> </u>		

#### **VERTICAL PILOT HOLE**

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SHALE/LS	0	0	128	128
LS/SHALE	128	128	200	200
LS/SS	200	200	260	260
LS/SHALE	260	260	450	450
SHALE/LS	450	450	500	500
SHALE/LS	500	500	764	764
LS/COAL	764	764	772	772
LS	772	772	778	778
PITTSBURGH COAL	778	778	788	788
LS/SHALE	788	788	880	. 880
LS	880	880	1000	1000
LS/SHALE	1000	1000	1060	1060
SHALE/LS	1060	1060	1300	1300
SHALE	1300	1300	1410	1410
SHALE/SS	1410	1410	1500	1500
SS/SHALE	1500	1500	1660	1660
SS	1660	1660	1760	1760
SS/LS	1760	1760	1790	1790
BIG LIME	1790	1790	1824	1824
BIG INJUN	1824	1824	2086	2086
SHALE	2086	2086	2110	2110
SS/LS	2110	2110	2170	2170
SS	2170	2170	2330	2330
SS/SHALE	2330	2330	2350	2350
SS	2350	2350	2420	2420
SHALE/SS	2420	2420	2530	2530
SHALE/LS	2530	2530	2560	2560
SHALE/SS	2560	2560	2680	2680
SHALE/LS	2680	2680	2710	2710
SHALE/SS	2710	2710	2830	2830
SHALE	2830	2830	5580	5580
SHALE/LS	5580	5580	5700	5700
SHALE	5700	5700	6580	6341
MIDDLESEX	6580	6341	6662	6423
GENESEO	6662	6423	6682	6443
TULLY	6682	6443	6708	6469
HAMILTON	6708	6469	6803	6563
MARCELLUS	6803	6563	6854	6614
ONONDAGA	6854	6614	6864	6624
TD	6864	6624		

#### LATERAL WELLBORE

Maximum TVD of wellbore: 6592 ft TVD @ 7206 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SHALE	6114	5907	6433	6187
MIDDLESEX	6433	6187	6745	6422
GENESEO	6745	6422	6771	6439
TULLY	6771	6439	6816	6466
HAMILTON	6816	6466	7010	6556
MARCELLUS	7010	6556	14484	6519
TD	14484	6519		0

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	ATE: 9-18-2012	
API#:	47-051-01493	

Farm name: Robert Young MSH 8H

Operator Well No.: 833798

District: Webster

Latitude: 2360

Longitude 10130

Feet West of 80

Deg. 57

Min. 30

Sec. WY DEPARTMENTAL PROJECTION

Company: Chesapeake Appalachia, L.L.C.

Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	100'	100'	314 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	864'	864'	982 Cu. Ft.
Inspector: Bill Hendershot	9 5/8"	2520'	2520'	1111 Cu. Ft.
Date Permit Issued: 10-24-2011	5 1/2"	12841	12841'	3143 Cu. Ft.
Date Well Work Commenced: 4-7-2012				
Date Well Work Completed: 6-18-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6702' (cement plug @ 5656'-6706')	-			
Total Measured Depth (ft): 12841'				
Fresh Water Depth (ft.): 310'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 710				
Void(s) encountered (N/Y) Depth(s) N				

Producing formation Marcellu	IS	Pay zone de	epth (ft) 6,800'-12,702'	
Gas: Initial open flow	_MCF/d O	il: Initial open flow	Bbl/d	
Final open flow 2,387	_MCF/d	Final open flow 53	Bbl/d	
Time of open flow between	en initial an	d final tests 57	Hours	
Static rock Pressure 4,272	psig (surf	face pressure) after	Hours	
			<del></del>	
		<u> </u>		
Second producing formation		Pay zone dep	th (ft)	
Second producing formation Gas: Initial open flow		Pay zone dep	th (ft) Bbl/d	
	_MCF/d O	Pay zone dep	` /	
Gas: Initial open flow	_MCF/d O _MCF/d	Pay zone dep il: Initial open flow Final open flow	Bbl/d	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlon Williams.
Signature

9-18-2012 Date

Were core samples taken?	Yes_X	No	Were cutti	ings caught during drill	ing? Yes	No_X
Were Electrical, Mechanica open hole logs run from 0' - 6,720' N	al or Geophy (D; sonic log from	sical logs recorde 5,540' - 6,721' MD and	ed on this well? If yes	s, please list GR, neutro 5' MD; LWD GR from 5,712' - 12	on, density, ai	nd resistivity
NOTE: IN THE ARE FRACTURING OR STIT DETAILED GEOLOGIC COAL ENCOUNTERED	MULATING	G, PHYSICAL ( ORD OF THE	CHANGE, ETC. 2). TOPS AND BOTT	THE WELL LOG WIOMS OF ALL FOR	HICH IS A SY	STEMATIC
Perforated Intervals, Fractu	ring, or Stim	ulating:				
(See Attached)						
.,						
Plug Back Details Includin	g Plug Type	and Depth(s): C	ement plug @ 5	656' - 6706'		
Formations Encountered: Surface:			Top Depth	I	Bottom I	<u>Depth</u>
(See Attached)						
					· · · · · · · · · · · · · · · · · · ·	

Well Number and Name: 833798 Robert Young MSH 8H

PERFO	PRATION RE	CORD	STIMULATION RECORD							
	Interval P	erforated				F	luid		ing Agent	Average
Date	From	То	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
5/25/2012	12,129	12,702	6/12/2012	12,129	12,702	Slk wtr	13,933	Sand	694,700	79.9
6/12/2012	11,463	12,035	6/13/2012	11,463	12,035	Slk wtr	13,768	Sand	688,760	79.8
6/13/2012	10,797	11,369	6/14/2012	10,797	11,369	Slk wtr	13,485	Sand	693,260	79.7
6/14/2012	10,131	10,703	6/15/2012	10,131	10,703	Sik wtr	13,568	Sand	688,720	79.8
6/15/2012	9,464	10,037	6/15/2012	9,464	10,037	Sik wtr	13,386	Sand	690,360	79.9
6/15/2012	8,798	9,371	6/16/2012	8,798	9,371	Slk wtr	13,306	Sand	685,100	80
6/16/2012	8,132	8,705	6/17/2012	8,132	8,705	Slk wtr	13,310	Sand	688,080	78.4
6/17/2012	7,466	8,039	6/17/2012	7,466	8,039	Sik wtr	13,336	Sand	681,900	78.7
6/17/2012	6,800	7,372	6/18/2012	6,800	7,372	Sik wtr	13,740	Sand	679,820	78.8

#### **VERTICAL PILOT HOLE**

Formation/Lithology	Top Depth, TVD/MD (ft)	Bottom Depth, TVD/MD (ft)
SS/SILTSTONE	0	710
PITTSBURG COAL	710	720
SS	720	790
SH/SILTSONE	790	1410
SS	1410	1530
SH/SILTSONE	1530	2040
BIG INJUN (SS)	2040	2350
SH/SILSTONE	2350	3810
SHALE	3810	6474
GENESEO (SH)	6474	6497
TULLY (LS)	6497	6528
HAMILTON (SH)	6528	6627
MARCELLUS (SH)	6627	6682
ONONDAGA (LS)	6682	
TD OF PILOT HOLE		6702

### LATERAL SIDETRACK WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SS/SILTSTONE	0	0	710	710
PITTSBURG COAL	710	710	720	720
SS	720	720	790	790
SH/SILTSTONE	790	790	1410	1410
SS	1410	1410	1530	1530
SH/SILTSTONE	1530	1530	2040	2040
BIG INJUN (SS)	2040	2040	2350	2350
SH/SILSTONE	2350	2350	3810	3810
SHALE	3810	3810	6485	6332
GENESEO (SH)	6485	6332	6505	6348
TULLY-(LS)	6505	6348	6547	6381
HAMILTON (SH)	6547	6381	6699	6467
MARCELLUS (SH)	6699	6467		
TD OF LATERAL			12841	6574

WE-35 Rev (8-10) Page 1 of 2

### State of West Virginia Department of Environmental Protection

DATE: 2 2 2 12 Al- No: 47-161-63220H

06-03220

Office of Oil and Gas

Lease No: DV014571; 071053; 070676; 70667; 70641;70644

Well Operator's Report of Well Work

Farm Name: MCCAULEY, I	RANDALL & JUDY	Operator W	/ell No. PE	ili <b>3</b> ahs (4)	Office of	The same
LOCATION: Elevation: 152	O'	Qu	ad <b>rangle:</b> P	hilippi	Office	EIVED
District: Pleasant		<del></del>	:Barbour		, ,,	UII & B
Latitude: 11,766	Feet South of: 39	Deg. 1:	5 Min.	00 Sec.	LEC 1 0	1 1000
Longitude: 15,389	Feet West of: 79		-	30 Seta	_	
		<del></del>		- N	V Departion Cement fill up Cu. Ft.	
Company: CNX Gas Com	pany LLC			Civir	)nmenaul	ment of
		Casing and	Used in	Left in well	Cement fill	Protect
		Tubing	drilling		un Co Ft	LaractiO!
Address: P.O. Box 1248					<u> </u>	1
Jane Lew. WV	26378					
Agent: Kent Wright		<u>i                                      </u>				
Enspector: Bryan Harris	·					]
Date Permit Issued:	08/10/2011					_]
Date Well Work Commence	<del></del>	20"	100'	100'	Grouted In	_
Date Well Work Comuleted	<u>11/12/2011</u>		L	·		_
Verbal Piugging:		13 3/8"	657.15'	657.15'	600 sks	4
Date Permission granted ora						4
Rotary Cable	Kig X	9 5/8"	2032'	2032'	630 sks	4
Total Vertical Depth (feet): Total Measured Depth (feet		<del> </del>		<del> </del>		-
Fresh Water Depth (ft.): N/			<del></del>	<del> </del>		4.
Salt Water Depth (ft.):				<u> </u>		4
Is coal being mined in area		<del> </del>		<del> </del>		-
Coal Depths (ft.): 190', 230',	310'		<del>                                     </del>	<del> </del>		-
Void(s) encountered (N/Y) I			<del> </del>			4
DRII	LING INCOMPLETE. PLAN C					
Producing formation 🚣			Pay zon	e depth (ft)		
Gas: Initial open flow	MC		Oil: Initial	open flow	_0Bbl/d	
Final open flow	MC		Final	open flow	0 Bbl/d	
1 ime of open flow b	etween initial and final tes	ts			12 Hours	
Static Rock Pressure		psig	(surface pres	ssure) after	12 Hours	
Second Producing formatic		770		depth (ft)		
Gas: Initial open flow Final open flow	TATC	CF/d	Oil: Initial	-	Bbl/d	
<u></u>		Æ/d	rinal -	open flow	<u>*</u> Вы/d	
	tween initial and final test				Hours	
Static rock Pressure	TOTALE TOWNS	psig (	surface press	ure) after	* Hours	
* COMMINGLED WITH PRI I certify under penalty of law that I have		amīliar with the i-	formation ant-	nitted on this de	ment and cft	
the attachments and that, based on my						
the information is true, accurate, and o			committe	,		
	Signature		D	ate		

WR-35													
Rev (5-					WE	LL: P	HL13AH	S (406847)					
Page 2	of 2												
Were o	core samp	les tak	en?	Yes No		. W	ere cuttings	caught dur	ing dr	illing?	Yes <u>X</u>	No	_
Were .	Elec	cirical	>	_Mechanical ,	<u> </u>	_or Ge	ophysical lo	gs recorded	on th	is well?			
				PUT TEE FOLL									
PHYSIC	CAL CHAN	GE, ET	(. <b>2</b> ).	THE WELL LOC	WHEC	H IS A ST	YSTEMATIC	DETAILED C	EOLO	GICAL REG	CORD OF	THE TO	PS AND
BOTTO	DMS OF AL	L FORN	aa io	<b>NS,</b> INCLUDING	COAL	ENCOU	NTERED BY	THE WELLB	ORE F	ROM SURF	ACE TO TO	OTAL D	EPTH.
PERF	ORATED	INTE	RVAI	LS. FRACTU	anac.	OR STI	MOULATER	ic.					
	011 NO FR												
				RIZONTAL DRILI									
	PLAN	ON REC	CONVE	INING THE VERT	ICAL A	ND HORI	ZONTAL DRI	LLING IN 2014	l.				
FORA	AATIONS	ENC	DUN	TERED:						•			
Fill	0		30	Sand/Shale	30		Coal	190	195	Sand/Clay	195	2:	30
Sand/Sha	de 23	30	310	e a mercenne appear agreement as	310				. 1045	Shale/RedRo	rek 104	5	
ļ.,				GAMMA F	. Y. Y	FORWA	STON TO	74					
_ [C	ONE TE						* **			:			
<u> </u>									. į				
<u> </u>	<del></del>	<b> </b>		<u> </u>		107	BASE						
-	ITTLE LII	) III				400		ļ					
}	IG LIME			·	<del></del>	1162 1188	1170	<del> </del>					
_	IG INJUN			<del> </del>	{	240	1240 1365	<del></del>					
	ANTZ	Ĭ	*******			550	1574	<b>_</b>					
F	OURTH S	SAND	***	<u> </u>		2089	2118	<del> </del>					
W	VARREN					2520	2550	†					
S	PEECHL	ΕY			2	2834	2873	†	1				
<b>—</b>	ALLTOW	IN			2	2996	3024	T					
_	ILEY				3	3720	3940						
	ENSON	<u> </u>			_	1020	4085						
	IRST ELI			ļ		1250	4302						
	ECOND I					1400	4480		4				
	OURTH E			<del> </del>	_	1660	4680	<del> </del>					
	YCAMOR		PIT	<u> </u>		1934 1298	4975 6405	<del> </del>	-				
	N-NAME			)NF		672	6760	<del> </del>					
	AULT	<u> </u>				803	0700	<del> </del>	<del></del>				
Ū	N-NAME	D SIL	TSTO	NE REPEAT		850	6927	<del> </del> -	+-				
	URKETT	1				339	7358	<b></b>					
Ī	ULLY					358	7419		A	DPA			
	AMILTO				7	419	7592	(	)fria	PECE	VED		
	IARCELL					592	7678		T''C	PECE e of o	ii 🖫 🦰		
	NONDA					678	7692				· G	86	
	UNTERS	VILLE	Ē	<b>_</b>		692			UE		<i>5</i> :2		
1	D		····	<del> </del>	+ 7	830		lan	1		715		
-		<del> </del>			+			Environ	400	Partin			
N A		į.		ī	1	1		~IIVIIA	-l	ruilm	E*1.344 J		

NOTE: Well TD'd at 7830 ft and plugged back to 6100 ft with 615 sks Class A cement.

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	August 14,2012	\	
API#:	47-097-03801	2	

ION: Elevation: 1818	_ Quadrangle:	Rock Cave 7.5'		
District: Banks	_ County: Upsh	ur		
Latitude: 38 Feet South of 52 Deg	, 30 Min	Sec		
Longitude 80 Feet West of 17 De	g. <u>30</u> Min	Sec	į	
Company: Mountain V Oil & Gas, Inc.				
Address: PO Box 470	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Bridgeport WV 26330	13 3/8"	31'	31'	sanded in
Agent: S. Michael Shaver	9 5/8"	546'	546'	200 sks
Inspector: Bill Hatfield	7"	2248'	2248'	310 sks
Date Permit Issued: 6-15-2011	4 1/2"	7178'	7178'	150 sks
Date Well Work Commenced: 8-6-12				
Date Well Work Completed: 8-14-12				
Verbal Plugging:				
Date Permission granted on:		İ		
Rotary Cable Rig				
Total Vertical Depth (ft): 7'			CEIVED	
Total Measured Depth (ft): 7195'		Office	of Oil & G	as
Fresh Water Depth (ft.): 64, 212		05.7	2 2 2042	
Salt Water Depth (fl.): 909',1699' (oil)		3E1	<b>2</b> 1 2012	
Is coal being mined in area (N/Y)? N		WAY De	partment	of
Coal Depths (ft.): N/A		Invironm	partinoni	ootion
Void(s) encountered (N/Y) Depth(s) N	l			
PEN FLOW DATA (If more than two producing formation Marcellus Page 1981)	y zone depth (ft)		ita on separate s	heet)
Gas: Initial open flow Odor MCF/d Oil: Initial open Final open flow 298,000 MCF/d Final open flow		bl/d		
Final open flow 298,000 MCF/d Final open flow Time of open flow between initial and final tests 21		ol/d :		
Static rock Pressure 940 psig (surface pressure)				
	zone depth (ft)			
Gas: Initial open flow MCF/d Oil: Initial open		bl/d		
Final open flow MCF/d Final open flow Time of open flow between initial and final tests	owB	bl/d ₹		
Static rock Pressurepsig (surface pressure)				

that the information is true, accurate, and complete.

1111 1

Signature

Date

Were core samples taken? Yes	No_X Were o	cuttings caught during drilling? Yes X NoNo			
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list GR/NEU/DEN/IND/TEMP/AUDIO					
FRACTURING OR STIMULATIN	NG, PHYSICAL CHANGE, ETC. : CORD OF THE TOPS AND BO	i). DETAILS OF PERFORATED INTERVALS, 2). THE WELL LOG WHICH IS A SYSTEMATIC DTTOMS OF ALL FORMATIONS, INCLUDING TO TOTAL DEPTH.			
Perforated Intervals, Fracturing, or Sti	mulating:				
Perforations: 7136-7161 100 h	oles				
2000 sks 80/100					
4016 sks 40/70					
Breakdown 3254 psi					
13944 bbls fluid					
Plug Back Details Including Plug Typ	ne and Depth(s):				
Formations Encountered: Surface:	Top Depth	/ Bottom Depth			
Sand / Shale	Ground Level	6938			
Geneseo Shale	6938	6974			
Tully Limestone	• 6974	7000			
Hamilton Shale	7000	7080			
Marcellus	7080	7174			
Onondaga	7174	7195			

.

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-7-2012	
API#:	47-061-01616	

TION: Elevation: 1424'	Quadrangle:	Hundred		
District: Battelle	County: Mond	ongatia		
	eg. 40 Mir			<del></del>
Longitude 5960' Feet West of 80 D	eg. 22 Mir	. 30 Sec	•	
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fil up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	110'	110'	106 Cu. I
Agent: Eric Gillespie	13 3/8"	525'	525'	623 Cu. I
Inspector: Sam Ward	9 5/8"	3660'	3660'	1852 Cu.
Date Permit Issued: 1-25-2011	5 1/2"	15657'	15657'	3357 Cu.
Date Well Work Commenced: 12-10-2011				
Date Well Work Completed: 3-26-2012				
Verbal Plugging:				
Date Permission granted on:		toward Alberta Proof Section In	ERem Police	
Rotary Cable Rig		Sand Brown Special Security		
Total Vertical Depth (ft): 7962'		CHAP OF CE		
Total Measured Depth (ft): 15674'		SEP 15	2012	
Fresh Water Depth (ft.): 400'		Ally Cleaner	หลอที่ ใช้	
Salt Water Depth (ft.): None	<u> </u>	The second second	Phylippin	
Is coal being mined in area (N/Y)?	0; [	VII. GELLLANGITUM	12 8 - 2 C+ C+4 45 45 15 11	
Coal Depths (ft.): 221', 1200'				
Void(s) encountered (N/Y) Depth(s) N				
Void(s) encountered (N/Y) Depth(s) N  EN FLOW DATA (If more than two producing form Producing formation Marcellus P  Gas: Initial open flow MCF/d Oil: Initial open Final open flow 4011* MCF/d Final open Time of open flow between initial and final tests  Static rock Pressure 5130* psig (surface pressure	ay zone depth (ft) en flow B flow 0 B Hour	8,349-15,536' bbl/d bl/d s *Calculated	ta on separate sl	neet)
Static rock Pressure 5100 psig (surface pressure	e) afterFlot	11.5		
	zone depth (ft)	-1-1-		
Gas: Initial open flow MCF/d Oil: Initial open		bl/d bl/d		
Final open flowMCF/d Final open Time of open flow between initial and final tests_	<del></del>			

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marley Williams
Signature

9-11-2012 Date

Were core samples taken? YesN	lo <u>X</u>	Vere cuttings caught during dri	illing? Yes X No
Were Electrical, Mechanical or Geophysic	cal logs recorded on this we	ll? If yes, please list	
NOTE: IN THE AREA BELOW IN FRACTURING OR STIMULATING, DETAILED GEOLOGICAL RECORT COAL ENCOUNTERED BY THE WE	PHYSICAL CHANGE, E D OF THE TOPS ANI	TC. 2). THE WELL LOG V D BOTTOMS OF ALL FO	VHICH IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimul	ating:		
(See Attached)			
Plug Back Details Including Plug Type an	d Depth(s):		
Formations Encountered: Surface:	Top Depth		Bottom Depth
(See Attached)			

Well Number and Name: 832638 Esther Clark 1H

PERFORATION RECORD					,	STIMULAT	<b>TON RECOR</b>	D		
	Interval Perforated				F	luid	Propping Agent		Average	
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
2/15/2012	15,144	15,536	3/12/2012	15,144	15,536	Slk wtr	13,281	Sand	568,080	81
3/13/2012	14,658	15,051	3/14/2012	14,658	15,051	Slk wtr	9,916	Sand	569,480	76
3/14/2012	14,175	14,570	3/14/2012	14,175	14,570	Sik wtr	10,729	Sand	568,500	78
3/15/2012	13,688	14,080	3/16/2012	13,688	14,080	Slk wtr	10,270	Sand	571,840	77
3/16/2012	13,203	13,595	3/17/2012	13,203	13,595	Slk wtr	10,410	Sand	571,980	84
3/17/2012	12,717	13,113	3/18/2012	12,717	13,113	Slk wtr	10,526	Sand	571,880	76
3/18/2012	12,232	12,624	3/18/2012	12,232	12,624	Slk wtr	11,981	Sand	571,880	82
3/18/2012	11,747	12,139	3/19/2012	11,747	12,139	Sik wtr	10,706	Sand	570,900	80
3/19/2012	11,262	11,654	3/21/2012	11,262	11,654	Slk wtr	10,859	Sand	570,960	70
3/21/2012	10,776	11,169	3/21/2012	10,776	11,169	Slk wtr	16,450	Sand	571,720	50
3/22/2012	10,295	10,683	3/22/2012	10,295	10,683	Slk wtr	10,891	Sand	572,280	81
3/22/2012	9,806	10,198	3/23/2012	9,806	10,198	Slk wtr	10,638	Sand	570,180	84
3/23/2012	9,321	9,713	3/23/2012	9,321	9,713	Sik wtr	10,410	Sand	565,980	83
3/24/2012	8,835	9,228	3/25/2012	8,835	9,228	Slk wtr	9,979	Sand	565,250	85.8
3/26/2012	8,349	8,747	3/26/2012	8,349	8,747	Sik wtr	9,866	Sand	568,160	84.6
1										

#### **LATERAL WELLBORE**

Maximum TVD of wellbore: 7962 ft TVD @ 8370 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)	
SHALE	0	0	250	250	
SANDSTONE/SHALE	250	250	500	500	
SHALE	500	500	930	930	
SANDSTONE	930	930	990	990	
LIMESTONE/SHALE	990	990	1140	1140	
COAL	1140	1140	1156	1156	
COAL/LIMESTONE/SHALE	1156	1156	1240	1240	
COAL	1240	1240	1260	1260	
COAL/LIMESTONE/SHALE	1260	1260	1320	1320	
SHALE	1320	1320	1600	1600	
SANDSTONE/SHALE	1600	1600	2460	2460	
BIG LIME	2640	2640	2550	2550	
<b>BIG INJUN SANDSTONE</b>	2550	2550	2750	2750	
SANDSTONE/SHALE	2750	2750	3210	3210	
BEREA SANDSTONE	3210	3210	3550	3550	
SHALE	3550	3550	4100	4100	
SHALE/SANDSTONE	4100	4100	4580	4580	
SHALE	4580	4580	7849	7749	
GENESEO	7849	7749	7881	7775	
TULLY	7881	7775	7911	7797	
HAMILTON	7911	7797	8121	7914	
MARCELLUS	8121	7914	15674	15674	
TD	15674	7894		44 + 4 j 4 j 4 j <b>0</b> 4	

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-7-2012	
API #:	47-061-01623	

OCATION: Elevation: 1424'	Quadrangle: Hundred 7.5'				
			······································	<del></del> ·	
District: Battelle	County: Mono	ongalia	···		
Latitude: 5484' Feet South of 39 Deg.  Longitude 5973' Feet West of 80 Deg.					
Company: Chesapeake Appalachia, L.L.C.					
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	20"	110'	110'	101 Cu. Ft.	
Agent: Eric Gillespie	13 3/8"	580'	580'	684 Cu. Ft.	
Inspector: Sam Ward	9 5/8"	3672'	3672'	1667 Cu. Ft.	
Date Permit Issued: 6/3/2011	5 1/2"	15136'	15136'	3317 Cu. Ft.	
Date Well Work Commenced: 10/18/2011					
Date Well Work Completed: 3/25/2012					
Verbal Plugging:					
Date Permission granted on:					
Rotary 🗸 Cable Rig		ra por const	The first in the		
Total Vertical Depth (ft): 8183'(cement plug 6,992 - 8183')		# 15 Per 102 4	r 3 (		
Total Measured Depth (ft): 15139'			2 2012		
Fresh Water Depth (ft.): 400'		SEP			
Salt Water Depth (ft.): None					
Is coal being mined in area (N/Y)? Y		Amaria da Maria	Mich Piller	(OL)	
Coal Depths (ft.): 221', 1200'					
Void(s) encountered (N/Y) Depth(s) N					
Gas: Initial open flow MCF/d Oil: Initial open f Final open flow 5010° MCF/d Final open flow Time of open flow between initial and final tests 47  Static rock Pressure 5153° psig (surface pressure) af	zone depth (ft) lowE v_0BHour rterHou	8,300° - 15,004° Bbl/d bl/d s * Calculated urs	ata on separate sh	neet)	
Second producing formation Pay zo					
Gas: Initial open flowMCF/d Oil: Initial open f Final open flowMCF/d Final open flow		bl/d			
Time of open flow between initial and final tests					
Static rock Pressure psig (surface pressure) after Hours					

all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlene Williams
Signature

7-11-2012 Date

Were core samples taken? Yes X No	Were cuttings caught during drilling? Yes X No					
Were Electrical, Mechanical or Geophysical logs recorded on Triple Combo, spectral gamma ray, borehole image and diploe sonic in pilot and MV	this well? If yes, please list					
Inple Compo, specifial gamma ray, borefule image and diploe some in pilot and wive gamma ray in account						
NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.						
Perforated Intervals, Fracturing, or Stimulating:						
Dive Peak Details Including Plus Type and Denth(s):	t					
Plug Back Details Including Plug Type and Depth(s): Cem	ient plug @ 6992 - 8183					
Formations Encountered: Top Surface:	Depth / Bottom Depth					
see attached						

Well Number and Name: 833083 Esther Clark 3H

RATION RE	COKD				STIMULAT	ION RECOR			
Interval P	erforated	l I			FI	luid	Proppi	ing Agent	Average
From	To	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
14,575	15,004	3/13/2012	14,575	15,004	Slk wtr	11,886	Sand	490,500	57
14.052	14,482	3/13/2012	14,052	14,482	Sik wtr	10,409	Sand		84
	13,959	3/15/2012	13,529	13,959	Slk wtr	10,870	Sand	588,820	84
	13,436	3/16/2012	13,006	13,436	Slk wtr	11,821	Sand	588,420	80
	12,960	3/17/2012	12,483	12,960	Sik wtr	11,750	Sand	588,210	84
	12,390	3/18/2012		12,390	Slk wtr	10,122	Sand	593,180	84
	11,867	3/19/2012	11,438	11,867	Sik wtr	13,887	Sand	582,620	80
	11,345	3/22/2012	10,915	11,345	Slk wtr	10,953	Sand	588,860	85
10,389	10,822	3/23/2012	10,389	10,822	Slk wtr	10,191	Sand	591,580	84
9,863	10,298	3/23/2012	9,863	10,298	Sik wtr	10,963	Sand	588,760	81
	9,776	3/25/2012	9,350	9,776	Slk wtr	10,102	Sand	588,700	85
	9,252	3/25/2012	8,823	9,252	Slk wtr	10,241	Sand	588,200	82
8,300	8,730	3/25/2012	8,300	8,730	Slk wtr	10,205	Sand	589,060	88
							ļ <u> </u>	ļ	
		<u> </u>					<u> </u>		
				<del> </del>		<u> </u>	<del> </del>		
		<del> </del>	<del></del>					<del> </del>	<del>                                     </del>
	Interval P From 14,575 14,052 13,529 13,006 12,483 11,956 11,438 10,915 10,389 9,863 9,350 8,823	Interval Perforated From To 14,575 15,004 14,052 14,482 13,529 13,959 13,006 13,436 12,483 12,960 11,956 12,390 11,438 11,867 10,915 11,345 10,389 10,822 9,863 10,298 9,350 9,776 8,823 9,252	Interval Perforated	Interval Perforated	Interval Perforated   From   To   Date   Interval Treated   14,575   15,004   3/13/2012   14,575   15,004   14,052   14,482   3/13/2012   14,052   14,482   13,529   13,959   3/15/2012   13,529   13,959   13,006   13,436   3/16/2012   13,006   13,436   12,483   12,960   3/17/2012   12,483   12,960   11,956   12,390   3/18/2012   11,956   12,390   11,438   11,867   3/19/2012   11,438   11,867   10,915   11,345   3/22/2012   10,915   11,345   10,389   10,822   3/23/2012   10,389   10,822   9,863   10,298   9,350   9,776   8,823   9,252   3/25/2012   8,823   9,252	Interval Perforated	Interval Perforated	Interval Perforated	Interval Perforated

#### **VERTICAL PILOT HOLE**

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SHALE	0		250	
SANDSTONE/SHALE	250		500	
SHALE	500		930	
SANDSTONE	930		990	
LIMESTONE/SHALE	990		1140	
COAL	1140		1156	
COAL/LIMESTONE/SHALE	1156		1240	
COAL	1240		1260	
COAL/LIMESTONE/SHALE	1260		1320	
SHALE	1320		1600	
SANDSTONE/SHALE	1600		2640	
BIG LIME	2640		2550	
<b>BIG INJUN SANDSTONE</b>	2550		2750	
SANDSTONE/SHALE	2750		3210	
BEREA SANDSTONE	3210		3550	
SHALE	3550		4100	
SHALE/SANDSTONE	4100		4580	
SHALE	4580		7744	
GENESEO	7744		7782	
TULLY	7782		7820	
HAMILTON	7820		7924	
MARCELLUS	7924		7994	
ONONDAGA	7994			
PILOT TD	8183			
PLUG BACK DEPTH	7107			

### LATERAL WELLBORE

Maximum	TVD of	f wellbore:	
---------	--------	-------------	--

e: 7972 ft TVD @ 13289 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SHALF	0	0	250	250

SANDSTONE/SHALE	250	250	500	500
SHALE	500	500	930	930
SANDSTONE	930	930	990	990
LIMESTONE/SHALE	990	990	1140	1140
COAL	1140	1140	1156	1156
COAL/LIMESTONE/SHALE	1156	1156	1240	1240
COAL	1240	1240	1260	1260
COAL/LIMESTONE/SHALE	1260	1260	1320	1320
SHALE	1320	1320	1600	1600
SANDSTONE/SHALE	1600	1600	2460	2460
BIG LIME	2640	2640	2550	2550
BIG INJUN SANDSTONE	2550	2550	2750	2750
SANDSTONE/SHALE	2750	2750	3210	3210
BEREA SANDSTONE	3210	3210	3550	3550
SHALE	3550	3550	4100	4100
SHALE/SANDSTONE	4100	4100	4580	4580
SHALE	4580	4580	7764	7730
GENESEO	7764	7730	7821	7774
TULLY	7821	7774	7854	7798
HAMILTON	7854	7798	8074	7910
MARCELLUS	. 8074	7910	15139	7905
LATERAL TD	15139	7905		0

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	11-16-2012
API#:	47-069-00066

me: Larry Ball 6H	· •	ll No.: 832769		•
ION: Elevation: 1330	_ Quadrangle:	Bethany WV		
District: Liberty	County: Ohio			
Latitude: 10110' Feet South of 40 Deg.		1. 30 Sec		
Longitude 15140 Feet West of 80 Deg	. <u>32</u>	1. 30 Sec	J.	
Company: Chesapeake Appalachia, L.L.C.	· -	1	1	T
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	100'	100'	Driven
Agent: Eric Gillespie	13 3/8"	590'	590'	718 Cu. Ft.
Inspector: Bill Hendershot	9 5/8"	2051'	2051'	858 Cu. Ft.
Date Permit Issued: 1-14-2011	5 1/2"	13525'	13525'	2711 Cu. Ft.
Date Well Work Commenced: 4-16-2011				
Date Well Work Completed: 8-20-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6341'				
Total Measured Depth (ft): 13523'				
Fresh Water Depth (ft.): 100'				
Salt Water Depth (ft.): 1545'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 540'				
Void(s) encountered (N/Y) Depth(s) N				
N FLOW DATA (If more than two producing formation roducing formation Marcellus Pay as: Initial open flow MCF/d Oil: Initial open flow Not Tested MCF/d Final open flow Time of open flow between initial and final tests psig (surface pressure) and surface pressure) and surface pressure of the producing formation of the pay as a surface pressure of the producing formation of the pay as a surface pressure of the pay as a surface p	zone depth (ft) flowE wBHour fterHou	7,070-13,371 Bbl/d bl/d s urs	lata on separate s	of F   2012
econd producing formation Pay zo as: Initial open flow MCF/d Oil: Initial open Final open flow MCF/d Final open flo Time of open flow between initial and final tests tatic rock Pressure psig (surface pressure) a	wB Hour afterHo	bl/d s urs	NENIAL PROTECTION mation submitte	RECEIVED IL&G

Were core samples taken? YesNo_X	Were cutting	s caught during dr	illing? Yes	No_X
Were Electrical, Mechanical or Geophysical logs recorded on	this well? If yes, p	lease list LWD G	R from 4661' -	13472' MD
NOTE: IN THE AREA BELOW PUT THE FOLI FRACTURING OR STIMULATING, PHYSICAL CHA DETAILED GEOLOGICAL RECORD OF THE TOI COAL ENCOUNTERED BY THE WELLBORE FROM	NGE, ETC. 2). TH PS AND BOTTON	E WELL LOG V VIS OF ALL FO	WHICH IS A SY	YSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:				
(See attached)			· · · - · · · · · · · · · · · · · · · ·	
	· · · · · · · · · · · · · · · · · · ·	····		
Plug Back Details Including Plug Type and Depth(s):				
Formations Encountered: Top Surface:	Depth	/	Bottom I	<u>Depth</u>
(See attached)				
				****
			·	

Well Number and Name: 832769 Larry Ball 6H

PERFO	PRATION RE	CORD		STIMULATION RECORD						
	Interval P	erforated				F	luid	Propp	ing Agent	Average
Date	From	To	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
7/9/2012	12,873	13,371	8/7/2012	12,873		Sik wtr	27,164	Sand	946,740	79
8/7/2012	12,228	12,784	8/8/2012	12,228		Sik wtr	19,096	Sand	953,160	79.9
8/8/2012	11,583	12,140	8/10/2012	11,583			17,221	Sand	954,900	76.5
8/10/2012	10,939	11,495	8/10/2012	10,939	11,495	Slk wtr	17,099	Sand	945,400	79.9
8/11/2012	10,288	10,857	8/13/2012	10,288	10,857	Sik wtr	17,143	Sand	949,440	78.9
8/13/2012	9,649	10,197	8/14/2012	9,649	10,197	Slk wtr	17,443	Sand	953,440	79.8
8/14/2012	9,010	9,561	8/16/2012	9,010	9,561	Slk wtr	17,180	Sand	950,260	79.7
8/16/2012	8,360	8,922	8/17/2012	8,360	8,922	Sik wtr	17,126	Sand	955,240	79.6
8/17/2012	7,715	8,271	8/18/2012	7,715	8,271	Sik wtr	16,966	Sand	956,920	80
8/19/2012	7,070	7,626	8/20/2012	7,070	7,626	Slk wtr	16,962	Sand	955,880	79.9
				<del></del>	-					
						-	-			

### LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 6341 ft TVD @ 13523 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS	0	0	540	540
PITTSBURG COAL	540	540	553	553
SS/LS	553	553	1210	1210
SS	1210	1210	1380	1380
SS/SH	1380	1380	1600	1600
BIG INJUN (SS)	1600	1600	1869	1869
SHALE	1869	1869	6450	6036
GENESEO (SH)	6450	6036	6476	6051
TULLY (LS)	6476	6051	6574	6102
HAMILTON (SH)	6574	6102	6887	6204
MARCELLUS (SH)	6887	6204		
TD OF LATERAL			13523	6341

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	11-16-2012	
API#:	47-069-00067	

arm name: Larry Ball OHI 5H	Operator We	ell No.: 832770		
OCATION: Elevation: 1340'	Quadrangle:	Bethany		
District: Liberty	County: Ohio	<b>)</b>		
Latitude: 10090' Feet South of 40 De	g. 12 Mi	n. <sup>30</sup> Se	 c.	
Longitude 15150' Feet West of 80 De	eg. 32 Mi	n. 30 See	c.	
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	13 3/8"	607'	607'	673 Cu. Ft.
Agent: Eric Gillespie	9 5/8"	2036'	2036'	898 Cu. Ft.
Inspector: Bill Hendershot	5 1/2"	15173'	15173'	3991 Cu. Ft.
Date Permit Issued: 1-26-2011				
Date Well Work Commenced: 12/30/2011				<b>†</b>
Date Well Work Completed: 8-20-2012		-		
Verbal Plugging:		-		
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6266'				
Total Measured Depth (ft): 15176'				
Fresh Water Depth (ft.): 100'				
Salt Water Depth (ft.): 1545'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 547'			<u> </u>	
Void(s) encountered (N/Y) Depth(s) N			.L	
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pa  Gas: Initial open flow MCF/d Oil: Initial open final open flow 2075* MCF/d Final open flow 50 pen flow between initial and final tests 50 Static rock Pressure 4035* psig (surface pressure)	y zone depth (ft)  1 flowF  1 low 277 B  277 Hour	6,900-15,031 Bbl/d bl/d *Calculat		heet)
Second producing formation Pay	zone depth (ft)		<u> </u>	0FF
Gas: Initial open flow MCF/d Oil: Initial oper	n flowF	3bl/d		NO NO
•	<del></del>	bl/d		N 2
Time of open flow between initial and final tests			IAL	FEN
Static rock Pressurepsig (surface pressure)  certify under penalty of law that I have personally examine Il the attachments and that, based on my inquiry of those in nat the information is true, accurate, and complete.	ed and am familia	ar with the infor	mation submitte	ton this dociment the information I be
Marley Will Signatur	1. oma e	<u> 11</u> -	19-201 D	<del>.</del>

Were core samples taken? Yes	No_X	Were cutt	ings caught during dri	illing? Yes	No_X
Were Electrical, Mechanical or Geoph	hysical logs recorded	on this well? If yes	s, please list LWD GF	R from 5734' -	15119' MD
NOTE: IN THE AREA BELO FRACTURING OR STIMULATIN DETAILED GEOLOGICAL REC COAL ENCOUNTERED BY THE	NG, PHYSICAL CH CORD OF THE TO	IANGE, ETC. 2). 7 OPS AND BOTT	THE WELL LOG W OMS OF ALL FO	VHICH IS A SY	STEMATIC
Perforated Intervals, Fracturing, or St	imulating:				
(See attached)					
			<del></del>		
Plug Back Details Including Plug Typ	e and Depth(s):				<del></del>
Formations Encountered: Surface:	To	p Depth	1	Bottom D	<u>)epth</u>
(See attached)					
(See allached)					
	<del> </del>				
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				<u>.                                    </u>	

Well Number and Name: 832770 Larry Ball OHI 5H

PERFO	RATION RE	CORD	STIMULATION RECORD							
	Interval P	erforated				F	luid	Propp	ing Agent	Average
Date	From	То	Date	interval	Treated	Туре	Amount	Туре	Amount	Injection
7/16/2012	14,486	15,031	8/2/2012	14,486	15,031	Slk wtr	11,360	Sand	635,760	79.8
8/2/2012	13,855	14,399	8/3/2012	13,855	14,399	Slk wtr	11,444	Sand	631,300	79.7
8/3/2012	13,223	13,767	8/4/2012	13,223	13,767	Sik wtr	11,714	Sand	631,380	79.9
8/4/2012	12,591	13,134	8/7/2012	12,591	13,134	Slk wtr	11,171	Sand	625,760	77.4
8/7/2012	11,958	12,502	8/8/2012	11,958	12,502	Sik wtr	11,270	Sand	631,680	79.7
8/9/2012	11,326	11,865	8/10/2012	11,326	11,865	Sik wtr	11,266	Sand	628,780	77.5
8/10/2012	10,694	11,238	8/12/2012	10,694	11,238	Slk wtr	11,350	Sand	627,820	79.8
8/12/2012	10,062	10,605	8/14/2012	10,062	10,605	Sik wtr	11,110	Sand	627,120	77.7
8/14/2012	9,420	9,973	8/15/2012	9,420	9,973	Sik wtr	11,144	Sand	629,220	79.6
8/15/2012	8,797	9,335	8/16/2012	8,797	9,335	Sik wtr	12,386	Sand	630,480	79.8
8/16/2012	8,165	8,709	8/17/2012	8,165	8,709	Slk wtr	11,071	Sand	630,920	79.5
8/18/2012	7,532	8,076	8/19/2012	7,532	8,076	Sik wtr	10,894	Sand	631,240	79.4
8/19/2012	6,900	7,444	8/20/2012	6,900	7,444	Sik wtr	11,274	Sand	630,440	80
		, in the second second								

### LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 6266 ft TVD @ 8277 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS	0	0	547	547
PITTSBURG COAL	547	547	557	557
SS/LS	557	557	580	580
SS	580	580	610	610
SH	610	610	670	670
SS	670	670	730	730
LS/SS	730	730	910	910
LS	910	910	972	972
LS/SS	972	972	1160	1160
SS	1160	1160	1390	1390
SS/SH	1390	1390	1670	1670
BIG INJUN (SS)	1670	1670	1887	1887
SHALE	1887	1887	6279	6065
GENESEO (SH)	6279	6065	6302	6083
TULLY (LS)	6302	6083	6369	6134
HAMILTON (SH)	6369	6134	6811	6229
MARCELLUS (SH)	6811	6229		
TD OF LATERAL			15176	6179

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	2-1-2012	
API#:	47-069-00075	REVISED

Farm name: Dallas Hall	Operator Well No.: 6H
LOCATION: Elevation: 1270'	Quadrangle: Bethany WV
District: Liberty Latitude: 8270' Longitude 12180'	County: Ohio           Feet South of 40         Deg.         10         Min.         00         Sec.           Feet West of 80         Deg.         35         Min.         00         Sec.

Company: Chesapeake Appalachia, L.L.C.  P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address:	20"	75'	75'	Driven
Oklahoma City, OK 73154-0496	13 3/8"	546'	546'	590 cf
Agent: Eric Gillespie	9 5/8"	2026'	2026'	931cf
Inspector: Bill Hendershot		12486'	12486'	2443 cf
Date Permit Issued: 2/15/2011	5 1/2"	12400	12400	+
Date Well Work Commenced: 6/5/2011				<del> </del>
Date Well Work Completed: 12/16/2011				
Verbal Plugging:				
Date Permission granted on:	·			-
Rotary Cable Rig			-	
Total Vertical Depth (ft): 6,215'				-
Total Measured Depth (ft): 12,503'				
Fresh Water Depth (ft.): 30'				
Salt Water Depth (ft.): 1035'				
Is coal being mined in area (N/Y)? N			_	
Coal Depths (ft.): 446'				
Void(s) encountered (N/Y) Depth(s) Y 446'				

voide, sinclude additions	l data on separate sheet)
OPEN FLOW DATA (If more than two producing formations please include additional Producing formation Marcellus Pay zone depth (ft) 6.730-12.337  Gas: Initial open flow 1.092 MCF/d Oil: Initial open flow 126 Bbl/d  Final open flow MCF/d Final open flow Bbl/d  Time of open flow between initial and final tests Hours  Static rock Pressure 4.040 psig (surface pressure) after Hours	RECEIVED Office of Oil & Gas
Second producing formation Pay zone depth (ft)	MAR 20 2012
Gas: Initial open flowMCF/d Oil: Initial open flowBbl/d  Final open flowMCF/d Final open flowBbl/d  Time of open flow between initial and final testsHours  Static rock Pressurepsig (surface pressure) afterHours	WV Department of Environmental Profession

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Malare Williams
Signature

3-1(2-2012) Date

Were core samples taken? Yes	No Were	cuttings caught du	ring drilling? Yes Y
Vere Electrical, Mechanical or Geophysic LWD GR from 5691-12444' MD	cal logs recorded on this well? I	f yes, please list	
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING, DETAILED GEOLOGICAL RECOR COAL ENCOUNTERED BY THE WI	PHYSICAL CHANGE, ETC. RD OF THE TOPS AND BO	2). THE WELL I	LOG WHICH IS A SYSTEMATIC LL FORMATIONS, INCLUDING
erforated Intervals, Fracturing, or Stimul	lating:		
ee Attached)			
			·
ug Back Details Including Plug Type ar	nd Depth(s): Cement @ 12	,385'	
ormations Encountered: urface:	Top Depth		Bottom Depth
ee Attached)			
			Office of Oil & Gas
			MAR 2 0 2017
			WV Department from the Environmental from the
			Environmental froteon

LITHOLOGY	TOP DEPTH (FT)   BOTTOM	DEPTH (FT)
LS/SHALE	0	450
Pittsburg Coal	446	456
SS	456	650
SHALE	650	950
SS/SHALE	950	1100
SHALE	1100	1250
SHALE/SS	1250	1400
SHALE	1400	1470
Big Lime	1470	1620
Big Injun	1620	1950
SHALE/SS	1950	2250
SHALE	2250	6135
Geneseo	6135	6163
Tully	6163	6245
Hamilton	6245	6462
Marcellus	6462	12500

Office divine South Costs

Well Name and Number: Dallas Hall 6H (833097)

PERFOR	RATION RE	CORD	STIMULATION RECORD							
	Interval P					Fluid		Propping Agent		Average
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
12/2/2011	11,954	12,337	12/2/2011	11,954	12,337	Slk Wtr	10,081	Sand	573,560	82.0
12/3/2011	11,476	11,867	12/3/2011	11,476	11,867	Sik Wtr	10,005	Sand	576,420	89.0
12/3/2011	11,005	11,387	12/3/2011	11,005	11,387	Slk Wtr	14,294	Sand	572,980	85.0
12/4/2011	10,534	10,912	12/4/2011	10,534	10,912	Slk Wtr	11,632	Sand	577,800	85.0
12/6/2011	10,025	10,437	12/6/2011	10,025	10,437	Slk Wtr	11,935	Sand	426,965	85.0
12/11/2011	9,582	9,962	12/11/2011	9,582	9,962	Slk Wtr	14,621	Sand	572,580	83.0
12/11/2011	9,105	9,487	12/11/2011	9,105	9,487	Slk Wtr	11,701	Sand	574,420	85.0
12/11/2011	8,630	9,012	12/11/2011	8,630	9,012	Slk Wtr	10,068	Sand	569,420	88.8
12/12/2011	8,160	8,537	12/12/2011	8,160	8,537	Slk Wtr	10,626	Sand	575,440	82.0
12/12/2011	7,680	8,062	12/12/2011	7,680	8,062	Slk Wtr	13,466	Sand	572,060	87.0
12/12/2011	7,205	7,587	12/12/2011	7,205	7,587	Slk Wtr	12,256	Sand	574,480	87.0
12/13/2011	6,730	7,112	12/13/2011	6,730	7,112	Slk Wtr	10,093	Sand	576,040	82.0
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### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE: API #:	9-13-2012	
AFI#.	47-069-00084	

Farm name: Roy Riggle 8H	Operator Wel	l No.: 833123		<del></del>			
LOCATION: Elevation: 1,250'	Quadrangle:	Quadrangle: Bethany, WV					
District: Liberty	County: Ohio	County: Ohio					
	Deg. 10 Min	ı. <u>00</u> Se	c.				
Longitude 5.540' Feet West of 80	_Deg. 30Min	. <u>00</u> Se	c.				
Company: Chesapeake Appalachia, L.L.C.							
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.			
Oklahoma City, OK 73154-0496	20"	75'	75'	263 Cu. Ft.			
Agent: Eric Gillespie	13 3/8"	655'	655'	757 Cu. Ft.			
Inspector: Bill Hendershot	9 5/8"	2,190'	2,190'	976 Cu. Ft.			
Date Permit Issued: 5-20-2011	5 1/2"	11,472'	11,472'	2458 Cu. Ft.			
Date Well Work Commenced: 7-9-2011							
Date Well Work Completed: 5-23-2012							
Verbal Plugging:							
Date Permission granted on:				·			
Rotary Cable Rig							
Total Vertical Depth (ft): 6,505'(coment plug@ 5770'	- 6505')						
Total Measured Depth (ft): 11,527'			_				
Fresh Water Depth (ft.): 150'							
Salt Water Depth (ft.): 700'							
Is coal being mined in area (N/Y)? N							
Coal Depths (ft.): 628'							
Void(s) encountered (N/Y) Depth(s) N							
OPEN FLOW DATA (If more than two producing fo Producing formation Marcellus Gas: Initial open flowMCF/d Oil: Initial of	_Pay zone depth (ft) open flowB	6,750'-11,331' Bbl/d	lata on separate :	sheet)			
<u> </u>		bl/d					
Time of open flow between initial and final test Static rock Pressure 4.210* psig (surface pressu		00.00.0		- MATTING C BOT CHOOSE 1963			
Second producing formation F	Pay zone depth (ft)						
Gas: Initial open flowMCF/d Oil: Initial o	·	bl/d		SEP 14 2012			
·		bl/d s	FA55 +	Laggery to segon 199			
Time of open flow between initial and final test Static rock Pressurepsig (surface pressure				CORPUS CONTROL O			

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Malue Cillians 9-1
Signature

Were core samples taken? Yes	<sub>No</sub> _X	Were cutting	gs caught during drilling?	YesNo_X
Were Electrical, Mechanical or Geoph open hole logs run from0' - 6,505' MD; LWD GR fro	ysical logs recorded n 5,640' - 11,416' MD.	on this well? If yes,	please list GR, neutron, d	ensity, and resistivity
NOTE: IN THE AREA BELOVER FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECOUNTERED BY THE	IG, PHYSICAL CI	HANGE, ETC. 2). TI TOPS AND BOTTO	HE WELL LOG WHICH MS OF ALL FORMA	I IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Sti	mulating:			
(See Attached)				
		· · · · · · · · · · · · · · · · · · ·	<del></del>	
Plug Back Details Including Plug Typ	e and Depth(s): Ce	ement plug @ 57	70' - 6505'	
Formations Encountered: Surface:		op Depth	1	Bottom Depth
(See Attached)				
		<u> </u>		
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			22.54	
			SECTION OF	<b>₹</b> ₩©

Service Commence of

Well Number and Name: 833123 Roy Riggle 8H

PERFORATION RECORD		STIMULATION RECORD								
	Interval P	erforated				Fluid		Propping Agent		Average
Date	From	To	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
5/5/2012	10,757	11,331	5/22/2012	10,757	11,331	Slk wtr	11,579	Sand	665,550	85
5/22/2012	10,089	10,663	5/22/2012	10,089	10,663	Slk wtr	12,124	Sand	665,240	83
5/22/2012	9,421	9,995	5/22/2012	9,421	9,995	Slk wtr	11,226	Sand	664,920	87
5/23/2012	8,754	9,323	5/23/2012	8,754	9,323	Slk wtr	10,830	Sand	664,980	86
5/23/2012	8,086	8,660	5/23/2012	8,086	8,660	Sik wtr	11,624	Sand	665,040	85
5/23/2012	7,418	7,992	5/23/2012	7,418	7,992	Slk wtr	10,643	Sand	665,540	85
5/23/2012	6,750	7,324	5/23/2012	6,750	7,324	Slk wtr	10,506	Sand	657,020	85
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#### VERTICAL PILOT HOLE

Formation/Lithology	Top Depth, TVD/MD (ft)	Bottom Depth, TVD/MD (ft)
LS/SH	0	628
PITTSBURG COAL	628	635
LS/SH/SS	635	1520
LS/SH	1520	1692
BIG INJUN (SS)	1692	1980
SHALE	1980	6240
GENESEO (SH)	6240	6264
TULLY (LS)	6264	6302
HAMILTON (SH)	6302	6414
MARCELLUS (SH)	6414	6486
ONONDAGA (LS)	6486	
TD OF PILOT HOLE		6505

## LATERAL SIDETRACK WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SH	0	0	628	628
PITTSBURG COAL	628	628	635	635
LS/SH/SS	635	635	1520	1520
LS/SH	1520	1520	1692	1692
BIG INJUN (SS)	1692	1692	1980	1980
SHALE	1980	1980	6270	6250
GENESEO (SH)	6270	6250	6293	6270
TULLY (LS)	6293	6270	6345	6312
HAMILTON (SH)	6345	6312	6539	6434
MARCELLUS (SH)	6539	6434		Office of Oil one Gas
TD OF LATERAL			11527	6478 SEF 1.4 (20)

State of West Virginia
Department of Environmental Protection

Office of Oil and Gas

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AF No: 47-06-06221h

Lease No: 071053; DV014571; 070676; 70667; 70641

Well Operator's Report of Well Work

m Name: MCCAULEY, R	ANDALL & JUDY	_Operator V	Vell No. PH	ili3BHS (4	06849)			
OCATION: Elevation: 1520	0'	Quadrangle: Philippi						
District: Pleasant		County	: Barbour					
Latitude: 11,837	Feet South of: 39	'	5 Min.	00 Sec.	Bake a			
Longitude: 3,607	Feet West of: 80		0 Min.	00	RECEIVE	P.		
			<del></del> -	VIII(	CE OF OIL	۶- ا		
Company: CNX Gas Com	pany LLC	1	<del></del>	T	Jr	G		
		Casing and		Petr III Mesi-	112111111111111111111111111111111111111			
		Tubing	drilling	100	up Cu. Ft.			
Address: P.O. Box 1248		<del> </del>	+ E	Divina	entai prote			
Jane Lew, WV 2 Agent: Kent Wright	03/8	}	<del>                                     </del>	LICOLDIAL .	ental o	0		
Inspector: Bryan Harris		<del> </del>			Ote	301		
Date Permit Issued:	02/14/2011		<u> </u>			-0,		
Date Well Work Commence		20"	100'	100'	Grouted In			
Date Well Work Completed								
Verbal Plugging:		13 3/8"	663'	663'	550 sks			
Date Permission granted on								
Rotary Cable	Rig X	9 5/8"	2022'	2022'	652 sks			
Total Vertical Depth (feet):		<u>!</u>	<del> </del>	<del> </del>				
Total Measured Depth (feet Fresh Water Depth (ff.): 30		<del> </del>	<del> </del>	+	<del></del>			
Sait Water Depth (ft.): 50	N/A	<del> </del>		+	<del>                                     </del>			
Is coal being mined in area				<del> </del>	<u> </u>			
Coal Depths (ft.): 190', 230'.								
Void(s) encountered (N/Y)		1		<del>                                     </del>				
Producing formation  Gas: Initial open flow  Final open flow		AND HORIZON  IF/d  IF/d	Pay zo	ne depth (ft) _ al open flow	0 Bbl/d 0 Bbl/d			
	etween initial and final te				12 Hours			
Static Rock Pressure			g (surface on	essure) after	12 Hours			
Second Producing formation Gas: Initial open flow		CF/d		e depth (ft) I open flow	* BH/4			
Final open flow		CF/d		open flow	Bbl/d 			
· —	etween initial and final tes							
Static rock Pressure	* stacen hittisi sum iinsi tes		(surface pre	ssure) after	# Hours			
* COMMINGLED WITH PR certify under penalty of law that I ha the attachments and that, based on my	ve personally examined and ಮಾ	familiar with the			cument and all			
the information is true, accurate, and o	complex			<u> </u>				
	Signature			Date				

WR-35											
Rev (5-01) Page 2 of 2				WEL	L: I	THLI3BI	HS (445849)	·			
Were core sa	imples ta	ken?	Yes No		W	ere cuttin	es caught du	rine dr	illing? Yes	X No	
Were	Electrica	I ,	Mechanical	, <u>X</u>	or Ge	ophysical	logs recorde	d on th	is well?	110	
PHYSICAL CE	ANGE, E	FC. 2).	PUT THE FOLIA THE WELL LO	o which	TS A ST	PETERGATE PERMANANTAN	CDETAILED	SKIEKV CEOLO	CICAL PROPE	ENG OR	STIMULATING,
BOTTOMS OF	ALL FOR	MATI	<b>dns,</b> including	COALE	NCOU	NTEREO B	V THE WELLE	CEOLO.	OM SUPEACE	ፓርን ምርንሞል ህርዥ ∄ዝዚ	TOPS AND
									OMBORIACE	IOIOIA	LUEPIH.
PERFORAT	ED INT	ERVA	LS, FRACTU	ring. o	R ST	MULAT	ING:				
	PRACTU		DEZOLEMAT DOM								
			PRIZONTAL DRILL ENING THE VERT								
				IICAL ANI	HOKI	ZUNTAL D	RILLENG IN 201	4.			
FORMATIO											
Fill Sand/Shale	0 230	30 310	Sand/Shale	30	190	Coal	190	195		195	230
Limestone/Shale	1250	1325	Coal Limestone/Sand	310	315 1600	Sand/Shale	315	1045	Shale/RedRock	1045	
		.,,,,,		1323	1000	Sand/Shale	1600				
1			2.55		9.35	San tai					
KROHED.	A to the	÷	e i i i i i debi i i i a di e	*** *****			•				
	*					e" + . •		1	-		
1				Üŕ		BASE					
			***************************************				<del> </del>	<del></del>			
LITTLE L		Ī		1162	2	1170	-	<del> </del>			
BIG LIME				1188	3	1240					
BIG INJU	W.			1240		1365					
GANTZ				1550		1574					
FOURTH				2089		2118					
WARREN		· · · · · · · · · · · · · · · ·	THE COURT OF STREET	2520		2550					
BALLTO				2834		2873		ļ			
RILEY	4414			2996		3024	ļ	ļ			
BENSON	<del></del>		manan man	3720 4020		3940 4085		<b> </b>	<u> </u>		
FIRST EL				4250		4302	<del> </del> -	<del> </del>			
SECOND	ELK			4400		4480	<del> </del>	<del> </del> -			
THIRD E			and the second s	4660		4680	<del></del>	<del> </del>			
FOURTH				4934		4975	†	<del>                                     </del>			
SYCAMO				6298		6405		<b></b>			
UN-NAM	ED SILT	STO	<u>AE</u>	6663							
-											
	+										
<u></u>			The second secon								
ļ							REC	EIA	o Gas		
<del> </del>	<del></del> -		·	<del></del>		····					
	+								ment of		
·	1						FIEC	10	116	•	
	<b>†</b>								&		
h							MARIDO	nari	ment of	: - 19	
	<u> </u>				-		AAA DE	ODT2	Protect	<b>IO</b> A A	
							UNLOUM	RHITO			
		·			•	(Jacon	• •	•			

### State of West Virginia Department of Environmental Protection Office of Oil and Gas

DAT . 2 . Al-1 No: 47-861-03/22/E

Lease No: 071053; DV014571; 070676; 70667; 70641

Well Operator's Report of Well Work

Farm Name: MCCAULEY, RANDALL & JUDY	Operator V	Well No. Ph	L13CHS (49	D <b>685</b> 1)
LOCATION: Elevation: 1520'	Qı	oadr <mark>ang</mark> le: <u>F</u>	hilippi	
District: Pleasant	— County	y: Barbour		
Latitude: 11,846 Feet South of: 39	Deg. 1	5 Min.	00 Sec.	
Longitude: 3,625 Feet West of: 80		00 Min.	00 Sec.	
Company: CNX Gas Company LLC	Codes	Used in	1' -6's i i	C C11
	Casing and Tubing	drilling	Left in well	Cement fill up Cu. Ft.
Address: F.O. Box 1248				
Jane Lew, WV 26378		<del></del>	<u> </u>	
Agent: Kent Wright		<del> </del>		
Inspector: Bryan Harris	!	<del></del>	-	
Date Permit Issued: 02/14/2011		100	1001	
Date Well Work Commenced: 09/23/2011	20"	100'	100'	Grouted In
Pata Well Work Completed: 10/07/2011 Verbal Plugging:	13 3/8"	657.6'	657.6'	486 sks
Date Permission granted on:	13 3/6	0.7.0	מונט ו	400 SKS
Rotar Cable Rig X	9 5/8"	2080'	2080'	640 sks
Total Vertical Depth (feet): 6720'	7 3/10		2000	040 383
Total Measured Depth (feet):		<del> </del>	<del> </del>	
Fresh Water Depth (ft.): 30'		<del>                                     </del>		
Salt Water Depth (ft.): N/A	1			
Is coal being mined in area (P/Y)?: No				i i
Coal Depths (ft.): 190', 230', 310'				
Void(s) encountered (IVY) Depth(s)				1
OPEN FLOW DATA  10/07/2011 - VERTICAL AND HOR RECONVENING THE VERTICAL.  Producing formation	AND HORIZON	DEC 1	Oil & Ga	is
Gas: Initial open flowMC	TP/d	<b>Wibeb</b> a	open flow	■ Bbl/d
	F/d _ V	vv nebš	illilieür€	Bb/d
Time of open flow between initial and final tes			tal Prote	ction Hours
Static Rock Pressure		g (surface pre		12 Hours
	F6	, ( F		
Second Producing formation			depth (ft)	
	CF/d	Oil: Initial	- •	* Bbl/d
	CF/d	rinal	open flow	Bbl/d
Time of open flow between initial and final tes				* Hours
Static rock Pressure *		(surface pres	sure) after	* Hours
* COMMINGLED WITH PREVIOUS FORMATIONS I certify under penalty of law that I have personally examined and am the attachments and that, based on my inquiry of those individuals im-	familiar with the			
the anacaments and that, based on my inquiry of those individuals that the information is true, accurate, and complete.	monanty tespons		p are intermenent	
Signature		I	Date	

WR-35 Rev (5-01) Page 2 of 2				WEI	ا داد	PHL13CHS	(406851)	)			
Were core sa	mples ta	akea?	Yes No	<u></u>	W	ere cuttings	caught du	ring de	rilling? Yes	X No	
			Mechanical								
PHYSICAL CE BOTTOMS OF PERFORAT 107/2011 NO	IANGE, E 'ALL FOR 'ED INT DFRACTU	TC. 2). RMATK ERVA JRB.	put the foli the well lo dns, includin LS, Fractu	G WHICE G COALE	encoui	ystematici ntered by i	DETAILED THE WELLI	<b>GEOLO</b>	GICAL RECOR	DOF THE	E TC
PHYSICAL CE BOTTOMS OF PERFORAT 107/2011 NO VI	IANGE, E ALL FOR ED INT OFRACTU ERTICAL AN ON RI	TC. 2). RMATK  TERVA  JRE.  AND HO  ECONVE	THE WELL LO DNS, INCLUDIN LS, FRACTU RIZONTAL DRII ENING THE VER	G WHICH G COAL! RING. O LING INC	encoui or sti	ystematici ntered by 1 IMULATIN IE	detailed The Welli G:	GEOLO SORE FI	GICAL RECOR	DOF THE	E TC
PHYSICAL CE BOTTOMS OF PERFORAT 107/2011 NO VI	IANGE, E ALL FOR ED INT OFRACTU ERTICAL AN ON RI	TC. 2). RMATK  TERVA  JRE.  AND HO  ECONVE	THE WELL LO DNS, INCLUDIN LS, FRACTU RIZONTAL DRII ENING THE VER	G WHICH G COAL! RING. O LING INC	encoui or sti	ystematici ntered by 1 IMULATIN IE	detailed The Welli G:	GEOLO SORE FI	GICAL RECOR	DOF THE	E T(

1	1	1		
	10P	BASE	•	1
			<del> </del>	1
LITTLE LIME	1162	1170	1	
BIG LIME	1188	1240		1
BIG INJUN	1240	1365		1
GANTZ	1550	1574	-	
FOURTH SAND	2089	2118		
WARREN	2520	2550		
SPEECHLEY	2834	2873		1
BALLTOWN	2996	3024	1	1
RILEY	3720	3940	-	
BENSON	4020	4085		
FIRST ELK	4250	4302		1
SECOND ELK	4400	4480		
THIRD ELK	4660	4680		
FOURTH ELK	4934	4975		
SYCAMORE GRIT	6298	6405		
UN-NAMED SILTSTONE	6720			
			150 E <sup>-0</sup> (	
			TEL	EIVED
			omce o	FOIL & C
			DFC	1 0 2012
			W Dep	artment tal Prot
		-Mi		ital Prot
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### State of West Virginia Department of Environmental Protection

DATE: AFI No: 4 - 001 - 032231-Lease No: 071053; 70667; DV014571

Operator Well No. PELLI3DES (496853)

Quadrangle: Philippi

County: Barbour

Office of Oil and Gas

Well Operator's Report of Well Work

Farm Name: MCCAULEY, RANDALL & JUDY

LOCATION: Elevation: 1520'
District: Pleasant

Latitude: 11,855	Feet South of:	39	Deg.	15	Min.	00	Sec.		
Longitude: 3,643	Peet West of:	80	Deg.	00	) Min.	00	Sec.		
			_ ~.				_		
Company: CNX Gas Com	pany LLC								
			Casing a	na	Used in	Left	in well	Ceme	nt fill
			Tubing		drilling			up Cr	e Ft.
Address: P.O. Box 1248									
Jane Lew, WV 2	6378								
Agent: Kent Wright									
Enspector: Bryan Harris									
	02/14/2011							ļ	
Date Well Work Commence	<u>09/06/2011</u>		30"		103'	1	103'	Gro	uted I:
Date Well Work Completed	09/20/2011					ļ		ļ	
Verbal Plugging:			13 3/8	n	662'	4	662'	53	0 sks
Date Permission granted on						<del> </del>		ļ	
Rotary Cable	Risa X		9 5/8"		1989'	4	989'	66	0 sks
Total Vertical Depth (fcet).						<del>-</del>		<del> </del>	
Total Measured Denth (feet				-		1		<del> </del>	
Fresh Water Depth (ft.): N/					<del></del>	+-		<del> </del>	
Salt Water Depth (ft.):	N/A				ļ	+		<del> </del> -	
is coal being mined in area						+-		<del> </del>	·
Coal Depths (ft.): 190', 230',						3 E 10		<del> </del>	
Void(s) encountered (N/Y) I					REC			<del></del>	
OPEN FLOW DATA 09/20	0/2011 - VERTICAL AND	HOR	IZONTAL E	RIL		山村	PAM	as	
REC	ONVENING THE VERTI	CAL A	ND HORIZ	CONT	AL DRILLING	3 IN 201	14.		
					DEC	10:	2012		
					220				
					A / D	maddan	el (A) a		
Producing formation				_¥	W Dec	EII	nem	<del>OŢ</del>	
Gas: Initial open flow —				nvi	ronmei	ntai	Prote	e <del>ctio</del>	<b>n</b> Bbl/d _Bbl/d
Final open flow		_MC	F/d		Pib	en ober	TIOM	10.0	
Time of open flow b	etween initial and fin	ai tes						12	Hours
Static Rock Pressure				psig	(surface pr	essure	) after	12	_Hours
Second Producing formation	าก				Pay zon	e dept	h (ft)		
Gas: Initial open flow	*	M	CF/d		Oil: Initia			*	BbVd
Final open flow	*		CIP/d			d open		*	Bbl/d
	etween initial and fin					-		*	_Hours
Static rock Pressure	*			osig	(surface pre	ssure)	after	*	Hours
* COMMINGLED WITH PR	EVIOUS FORMATI	ONS		_	•		_	_,-	
I certify under penalty of law that I ha	ive personally examined as	t ma bo	familiar with	the i	nformation su	bmitted	on this do	cument a	ad all
the attachments and that, based on m	y inquiry of those individu	als imr	mediately res	pons	ible for obtain	ing the i	nformatio	ı I believ	e that
the information is true, accurate, and									
					·		_ <u></u>		
	Signature					Date			

WR	-35	,
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WELL: PHILI3DHS (406853)

Were core samples taken?	Yes NoX	Were cuttings caught during drilling?	Yes <u>X</u> No
Were Electrical ,	_Mechanical , <u>X</u> or	Geophysical logs recorded on this well?	
		DETAILS OF PERFORATED INTERVALS, FRA	
PHYSICAL CHANGE, ETC. 2).	THE WELL LOG WHICH IS	A SYSTEMATIC DETAILED GEOLOGICAL RE	CORD OF THE TOPS AND
BOTTOMS OF ALL FORMATIO	ns, including coal enc	COUNTERED BY THE WELLBORE FROM SURI	FACE TO TOTAL DEPTH.

### PERFORATED INTERVALS, FRACTURING, OR STIWULATING: 9/20/2011 NO FRACTURE.

VERTICAL AND HORIZONTAL DRILLING INCOMPLETE.

PLAN ON RECONVENING THE VERTICAL AND HORIZONTAL DRILLING IN 2014.

#### FORMATIONS ENCOUNTERED:

Fill	0	30	Sand/Shale	30	190	Coal	190	195	Sand/Clay	195	230
Sand/Shale	230	310	Coal	310	315	Sand/Shale	315	1045	Shale/RedRock	1045	
l'imestane/Shale	1250	1325	Limestone/Sand	1325	1600	Sand/Shale	1600				

	usanda SIY	Manager 1	1971		i Ž
	****				
			5005		
		TOP	BASE		
		1162	1170		
LITTLE LIME		1188	1240		
BIG LIME		1240	1365		
BIG INJUN		1550	1574		
GANTZ		2089	2118	i	
FOURTH SAND WARREN		2520	2550		
SPEECHLEY		2834	2873		
BALLTOWN		2996	3024	***************************************	
RILEY		3720	3940		
BENSON		4020	4085		
FIRST ELK		4250	4302		
SECOND ELK		4400	4480		
THIRD ELK		4660	4680		
FOURTH ELK		4934	4975		
SYCAMORE GRIT		6298	6359		
010/1					
			<u> </u>		
				<u> </u>	
		<u></u>			
				<u> </u>	
	•			┵ -	

### State of West Virginia

Department of Environmental Protection

Office of Oil and Gas

DATE: 1 4 3 6 11 2

AF: No: 47-001-03238 00,-23238

Lease No: 70642; L210154; 70667; 071053; 70640

#### Well Operator's Report of Well Work

OCATION: Elevation: 1520'	Qī	ıadrangle: l	Philippi	
District: Pleasant	County			
Latitude: 11,864 Feet South of: 3	9 Deg. 1	5 Min.	00 Sec.	
	0 Deg. 0		00 Sec.	
2001,0000	150g	141111.		
Company: CNX Gas Company LLC				
	Casing and	Used in	Left in well	Cement fill
	Tubing	drilling		up Cu. Ft.
Address: P.O. Box 1248				
Jane Lew, WV 26378				
Agent: Kent Wright				
Inspector: Bryan Harris		<u> </u>		
Date Permit Essued: 06/17/2011		<u> </u>		
Date Well Work Commenced: 07/31/2011	20"	103'	103'	Grouted Ir
Date Well Work Completed: 09/04/2011	10 2 2 2 2	(70)	(70)	ļ <u></u>
Verbal Plugging:	13 3/8"	653'	653'	520 sks
Date Permission granted ou:	0.5.104	2010	2010	(25 -)
Rotary Cable Rig X Total Vertical Depth (feet): 4320	9 5/8"	2019'	2019'	635 sks
Total Measured Depth (feet): 4520	<del> </del>		<del>- </del>	<del>                                     </del>
Fresh Water Depth (ff.): N/A			<del> </del>	<del>i</del>
Sait Water Depth (ft.): N/A	<del></del>	<del> </del>	<del></del>	<del> </del>
Is coal being mined in area (N/Y)?: No	<del></del>			
Coal Depths (ft.): 190', 230', 310'				
Coal Depths (ft.): 190', 230', 310'  Void(s) encountered (N/Y) Depth(s)		DE	ren/en	
Void(s) encountered (N/Y) Depth(s)	DEZONTAL DOLL		CEIVED	1
Void(s) encountered (N/Y) Depth(s)	PRIZONTAL DRIL			as
Void(s) encountered (N/Y) Depth(s)	PRIZONTAL DRIL AND HORIZON			ias
Void(s) encountered (N/Y) Depth(s)	PRIZONTAL DRIL AND HORIZON	Officen	Korac	ias
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HO RECONVENING THE VERTICAL		DEC	1 0 2012	
Void(s) encountered (N/Y) Depth(s)		DEC	1 0 2012	
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation	CEIA	DEC	1 0 2012	Of phi/
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation	CEIA	DEC	1 0 2012	Of phi/
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation  Gas: Initial open flowM	CF/d <b>Env</b>	DEC	1 0 2012	Of Bbi/
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation	CF/d <b>Env</b> CF/d <b>Env</b>	DEC VV DEC vironne	1 0 2012 Pattment Intel Reof	Bbl/6
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation  Gas: Initial open flow	CF/d <b>Env</b> CF/d <b>Env</b>	DEC VV DEC vironne	1 0 2012	Bbl/c
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation  Gas: Initial open flow	CF/d <b>Env</b> CF/d <b>Env</b>	DEC VV DEC vironne	1 0 2012 Pattment Intel Reof	Bbl/c
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation  Gas: Initial open flow Mrinal open flow between initial and final to	CF/d <b>Env</b> CF/d <b>Env</b>	DEC VV DEC vironne	1 0 2012 Pattment Intel Reof	Of Bbl/ Botton:bl/
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation  Gas: Initial open flow	CF/d <b>Env</b> CF/d <b>Env</b>	DEC VV DEC vironne	1 0 2012 Pattment Intel Reof	Of Bbl/ Botton:bl/
Producing formation  Gas: Initial open flow Final open flow Time of open flow between initial and final to Static Rock Pressure	CF/d <b>Env</b> CF/d <b>Env</b>	DEC	1 0 2012  1 0 2012  Pattment  Intel Reof	Of Bbl/ Botton:bl/
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HO RECONVENING THE VERTICAL  Producing formation	CF/d <b>Env</b> CF/d <b>Env</b> estspsig	DEC	1 0 2012  ne depth (ft)  pattment  ntal Reoff  essure) after  e depth (ft)	Portion Bbl/ Portion Bbl/ 12 Hour
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation	CF/d <b>Env</b> CF/d <b>Env</b>	DEC	1 0 2012  ne depth (ft)  Pattinent  I depth (ft)  essure) after  e depth (ft)  l open flow	Bbl/d  Bbl/d  Bbl/d  Bbl/d  Bbl/d
Producing formation  Gas: Initial open flow Time of open flow between initial and final to  Static Rock Pressure  Second Producing formation  Gas: Initial open flow  Final open flow  Static Rock Pressure  Second Producing formation  Gas: Initial open flow  Final open flow	CF/d Envestspsig	DEC	1 0 2012  ne depth (ft)  pattment  ntal Reoff  essure) after  e depth (ft)	# Bbl/d
Producing formation  Gas: Initial open flow between initial and final to Static Rock Pressure  Second Producing formation  Gas: Initial open flow between initial and final to Static Rock Pressure  Second Producing formation  Gas: Initial open flow	CF/d Envests psig	DEC VIII DEC	1 0 2012  ne depth (ft)  Paument  Paument  Reoff  essure) after  e depth (ft)  l open flow  l open flow	* Bbl/d * Bbl/d * Hour
Producing formation  Gas: Initial open flow Time of open flow between initial and final to  Static Rock Pressure  Second Producing formation  Gas: Initial open flow  Final open flow  Static Rock Pressure  Second Producing formation  Gas: Initial open flow  Final open flow	CF/d Envests psig	DEC	1 0 2012  ne depth (ft)  Paument  Paument  Reoff  essure) after  e depth (ft)  l open flow  l open flow	# Bbl/d
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation  Gas: Initial open flow Mr. Time of open flow between initial and final to Static Rock Pressure  Second Producing formation  Gas: Initial open flow Mr.	CF/d Env ests psig	DECONOMIC PAY ZON Oil: Initia Fina	1 0 2012  ne depth (ft)  Pattment  I depth (ft)  essure) after  e depth (ft)  l open flow  l open flow  ssure) after	* Bbl/c * Bbl/c * Hour # Hour
Void(s) encountered (N/Y) Depth(s)  OPEN FLOW DATA 09/04/2011 - VERTICAL AND HORECONVENING THE VERTICAL  Producing formation  Gas: Initial open flow	CF/d Env estspsig fCF/d fCF/d stspsig S n familiar with the i	DECONOMIC DE CONOMIC DECONOMIC DE CONOMIC DECONOMIC DE CONOMIC DECONOMIC  DE CONOMIC DECONOMIC DECONOMIC DECONOMIC DECONOMIC DECONOMIC DE CONOMIC DECONOMIC  DE CONOMIC DECONOMIC  DE CONOMICA DECONOMICA DECONOMICA DE CONOMICA DECONOMICA DE CONOMICA DE CON	1 0 2012  ne depth (ft)  Pattrachi  Pattrach	Bbl/c  Bbl/c  Bbl/c  Bbl/c  Hour  Hour  unment and all

Signature

Rev. (6/20/2012)

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2 of 2				WE	LL: P	HL13EHS (	447545)	i		
	amples to	ol-om?	V N-	. 57	WWI		,		171 0	
			Yes No							X No
е	Electric	ai,	Mechanical	, <u>x</u>	_or Ge	ophysical logs	recorde	d on th	is well?	
SICAL CI	eange, e	TC. 2).	THE WELL LO	G WHIC	H IS A ST	STEMATIC DE	TAILED	GEOLO	GICAL RECOR	RING OR STIMULAT ID OF THE TOPS AND TO TOTAL DEPTH.
FORAT	TED INT	ERVA	LS, FRACTU	RING.	or sti	MULATING	:			
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				INCAL AT	ND HOKE	CONTALDRILL	ING IN 201	4.		
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Shale	230	310	Coal	310	190 315	Coal Sand/Shale	190 315	195 1045	Sand/Clay Shale/RedRock	195 230 1045
tone/Shale	1250	1325	Limestone/Sand		1600	Sand/Shale	1600	1043	Suale Rolleca	1043
	· · · · · · · · · · · · · · · · · · ·				<u>10P</u>	BASE			-	
LITTL	ELIME				1162	1170			j	
BIG L					1188	1240				
BIG II					1240	1365				
	RTH SAI	VID.			1550 2089	1574				
WAR		767	<del></del>		2520	2550				
SPEE	CHLEY				2834	2873				
<u></u>	TOWN				2996	3024				
RILE				· · · · · · · · · · · · · · · · · · ·	3720	3940				
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# State of West Virginia Department of Environmental Protection

DAT : 2 Ai No: 47-401-03/3921 Co Lease No: 70542; 70667; 071053; 70640

001-03239

Office of Oil and Gas

Well Operator's Report of Well Work

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Qı	adrangle: F	Philippi	
County	:Barbour		
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o Deg. 0	U IVIII.	Sec.	
Casing and	Used in	Left in well	Cement fill
Tubing	drilling	4	up Cu. Ft.
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9 5/8"	2002.45'	2002.45	625 sks
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RIZONEAL DRILL AND HARLOS	CEIVE	D ETE. PLAN ON P <b>GAS</b>	
	C <b>1,0</b> 201	2	
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DE ce/a <b>WV D</b> e	C 1 0 201 Pay zon	2 e depth (ft)	0 Bbl/d
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DE CF/d WV DO Frivironm sts_	C 1 0 201 Pay zon Partme entaf Pr	2 e depth (ft) ent of w otection	0 Bbl/d 0 Bbl/d 12 Hours
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DE CF/d WV De Environm stspsig	Pay zone Partme ental P  (surface pres	e depth (ft) entropy otection ssure) after depth (ft)	0 Bbl/d 0 Bbl/d 12 Hours 12 Hours
DE  CF/d WV De  Frivironm  sts psig  CF/d	Pay zone Oil: Initial	e depth (ft)  ore depth (ft)  ssure) after  depth (ft) open flow	0 Bbl/d 0 Bbl/d 12 Hours 12 Hours
DE  CF/d WV De  Frivironm  stspsig  CF/d  CF/d	Pay zone Oil: Initial	e depth (ft) entropy otection ssure) after depth (ft)	0 Bbl/d 0 Bbl/d 12 Hours 12 Hours  * Bbl/d * Bbl/d
DE  CF/d WV De  Frivironm  sts psig  CF/d  CF/d  cts	Pay zone Oil: Initial Final	e depth (ft) cotection ssure) after depth (ft) open flow	0 Bbl/d 0 Bbl/d 12 Hours 12 Hours
CF/d WV Do Environm stspsig  CF/d CF/d itspsig (	Pay zone Oil: Initial	e depth (ft) cotection ssure) after depth (ft) open flow	0 Bbl/d 0 Bbl/d 12 Hours 12 Hours  * Bbl/d * Bbl/d
CF/d WV Do Environm stspsig  CF/d CF/d stspsig (6)	Pay zone Oil: Initial Final surface press	e depth (ft) cotection ssure) after depth (ft) open flow open flow sure) after	0 Bbl/d 12 Hours 12 Hours  * Bbl/d * Bbl/d * Hours  * Hours
CF/d WV Do Environm stspsig  CF/d CF/d stspsig (5) familiar with the in	Pay zone Oil: Initial Final surface press	e depth (ft) cotection ssure) after depth (ft) open flow sure) after itted on this decum	0 Bbl/d 0 Bbl/d 12 Hours 12 Hours  * Bbl/d * Bbl/d * Hours  * Hours
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CF/d WV Do Environm stspsig  CF/d CF/d stspsig (5) familiar with the in	Pay zone Oil: Initial Final surface press	e depth (ft) cotection ssure) after depth (ft) open flow sure) after itted on this decum	0 Bbl/d 0 Bbl/d 12 Hours 12 Hours  * Bbl/d * Bbl/d * Hours * Hours
	County Pounty Po	Quadrangle: F  County: Barbour  9 Deg. 15 Min.  0 Deg. 00 Min.  Casing and Used in Tubing drilling  20" 40'  13 3/8" 659.4'	Quadrangle: Philippi

WE.	-35		
Rev	(5-	01	)
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Rev (5-01) Page 2 of 2				WEAT	: F	PHL13FHS	(407548)				
Were core sai	mples (alce	117	Yes N	lo <u>X</u> ol	W	ere cuttings (	aught dur	ing de	illing? Ye	s X No	•
Were I											<del></del>
NOTE: IN THE PHYSICAL CHA BOTTOMS OF	ange, <b>etc</b> .	. 2).	THE WELL L	og which is	A S	YSTEMATEC D	ETAILED G	EOLO	GICAL RECO	RD OF THI	STIMULATING E TOPS AND AL DEPTH.
PERFORATI	ED INTER		LS. FRACTI	uring, or	ST	MULATING	<u>:</u> :				
				ILLING INCOM							
PL	AN ON RECO	ONVE	NING THE VE	RTICAL AND I	IORI	ZONTAL DRILL	ING IN 2014				
<b>FORMATIO</b>	NS ENCO	UNI	ERED:								
Fil	0 :	30	Sand/Shale	30	190	Coal	190	195	Sand/Clay	195	230
Sand/Shale	230	310	Coal	310	315	Sand/Shale	315	1045	Shale/RedRock	1045	
Limestone/Shale	1250	1325	Limestone/Sand	1325	1600	Sand/Shale	1600				

CARRELES DE CARREL

	TOP	BASE		
LITTLE LINE	1162	1170		
BIG LIME	1188	1240		
BIG INJUN	1240	1365		
GANTZ	1550	1574		and the same of the same and the
FOURTH SAND	2089	2118	gazagan er i jang mengangan	
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BALLTOWN	2996	3024	makanggah - nagagat p ani nggapagh , ani agan 1941	
RILEY	3720	3940		
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		vironm	ental Pr	ptection
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WR-35 Rev (9-11)

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-19-2012
API#:	47-009-00097

Farm name: Linda Greathouse BR	(3H	Operator Well No.: 833467					
LOCATION: Elevation: 1150'		Quadra	angle: 247-Beth	nany			
District: Buffalo		Count	y: Brooke				
Latitude: 6620	Feet South of 40	Deg. 12	Min. 30	Sec.			
Longitude 1520'	Feet West of 80	Deg. 35	Min. 00	Sec.			

Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	26"	110'	110'	Driven
Agent: Eric Gillespie	20"	343'	343'	544 Cu. Ft.
Inspector: Bill Hendershot	13 3/8"	731'	731'	931 Cu. Ft.
Date Permit Issued: 6-6-2011	9 5/8"	1781'	1781'	785 Cu. Ft.
Date Well Work Commenced: 11-19-2011	5 1/2"	12749'	12749'	3750 Cu. Ft.
Date Well Work Completed: 6-25-2012				
Verbal Plugging:				
Date Permission granted on:	•	ECEIVED	Gas	
Rotary Cable Rig	Offic	e of Oil 8	Sign	
Total Vertical Depth (ft): 5843'		SEP 2 1 2012		
Total Measured Depth (ft): 12749'				
Fresh Water Depth (ft.): 62', 94'	WV	Departme	Mr Oi	
Salt Water Depth (ft.): 1025'	Enviro	Departmental P	Ulection	
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 300'				
Void(s) encountered (N/Y) Depth(s) Y 300'				

Producing formation Marcellu	s Pay zone d	lepth (ft) 6,125'-12,617'
Gas: Initial open flow	_MCF/d Oil: Initial open flow	Bbl/d
Final open flow Not Tested	_MCF/d Final open flow	Bbl/d
Time of open flow between	n initial and final tests	Hours
Static rock Pressure	_psig (surface pressure) after	Hours
Second producing formation	Pay zone dep	oth (ft)
Gas: Initial open flow	MCF/d Oil: Initial open flow	Bbl/d
Final open flow	MCF/d Final open flow	Bbl/d
Time of open flow between	en initial and final tests	Hours
Static rock Pressure	psig (surface pressure) after	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Manlon Cicciana
Signature

Were core samples taken? YesNo_N	Were cuttings caught during drilling? Yes Y No
Were Electrical, Mechanical or Geophysical logs recorded on open hole logs run from 0-1804' MD; LWD GR from 5332-12749' MD.	this well? If yes, please list GR, neutron, density, and resistivity
FRACTURING OR STIMULATING, PHYSICAL CHAN	OWING: 1). DETAILS OF PERFORATED INTERVALS, IGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC S AND BOTTOMS OF ALL FORMATIONS, INCLUDING SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
(See Attached)	
	<del></del>
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Plug Back Details Including Plug Type and Depth(s):	
Formations Encountered: Top I Surface:	Depth / Bottom Depth
(See Attached)	
	·

### PERFORATION RECORD ATTACHMENT

Well Number and Name: 833467 Linda Greathouse BRK 3H

PERFO	PERFORATION RECORD STIMULATION RECORD					<del></del>				
	Interval Perforated					Flui		Propping Agent		Average
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
6/4/2012	12,116	12,617	6/20/2012	12,116	12,617	Slk wtr	12,423	Sand	601,920	77.5
6/20/2012	11,517	12,018	6/21/2012	11,517	12,018	Sik wtr	12,487	Sand	599,920	77
6/21/2012	10,918	11,422	6/21/2012	10,918	11,422	Slk wtr	12,425		601,740	79.8
6/21/2012	10,321	10,820	6/23/2012	10,321	10,820	Sik wtr	12,127		598,120	80
6/23/2012	9,716	10,221	6/23/2012	9,716	10,221	Sik wtr	12,330		600,760	80
6/23/2012	9,120	9,622	6/24/2012	9,120	9,622	Slk wtr	11,907	Sand	601,140	78.1
6/24/2012	8,521	9,022	6/24/2012	8,521	9,022	Slk wtr	12,055		602,280	80
6/24/2012	7,922	8,420	6/24/2012	7,922	8,420	Slk wtr	12,253		601,860	79.8
6/24/2012	7,323	7,824	6/25/2012	7,323	7,824	Sik wtr	11,950		601,420	78.5
6/25/2012	6,724	7,225	6/25/2012	6,724	7,225	Slk wtr	11,850		600,260	79.9
6/25/2012	6,125	6,626	6/25/2012	6,125	6,626	Slk wtr	12,066		599,220	79.9
l	· ·									
<del>                                     </del>										
			-							
									<del></del>	

### LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 5843 ft TVD @ 6200 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SH/LS/SS	0	0	300	300
PITTSBURG COAL	300	300	307	307
LS/SH	307	307	360	360
SS	360	360	1290	1290
BIG LIME (LS)	1290	1290	1420	1420
BIG INJUN (SS)	1420	1420	1630	1630
SHALE	1630	1630	5689	5661
GENESEO (SH)	5689	5661	5703	5672
TULLY (LS)	5703	5672	5794	5732
HAMILTON (SH)	5794	5732	5988	5816
MARCELLUS (SH)	5988	5816		
TD OF LATERAL			12749	5778

WR-35 Rev (9-11)

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	9-12-2012	۵
API#:	47-009-00104	

CATION: Elevation: 1150'	Operator Wel			
	Quadrangie: _	Detitally		
District: Buffalo	County: Brook			
	eg. 15 Min			
Dongstude	eg35Min	. <u>00</u> Se	C.	
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	102'	102'	477 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	331'	331'	421 Cu. Ft.
Inspector: Bill Hendershot	9 5/8"	1665'	1665'	763 Cu. Ft.
Date Permit Issued: 7-12-2011	5 1/2"	11003'	11003'	2846 Cu. Ft.
Date Well Work Commenced: 10-2-2011				
Date Well Work Completed: 10-26-2011				
Verbal Plugging:				<del> </del>
Date Permission granted on:	96	CEIVED		
Rotary Cable Rig		of Oil & G	lac .	<del> </del>
Total Vertical Depth (ft): 5882' (cement plug @ 5074'-58		OI CILO G		<b> </b>
Total Measured Depth (ft): 11003'	SEI	2 1 2012		
Fresh Water Depth (ft.): 61', 200'	140/10		†	
Salt Water Depth (ft.): 1146'	VVV De	<del>partment</del>	<del>of</del>	
Is coal being mined in area (N/Y)? N	Environme	<del>mai Prot</del>	ection —	
Coal Depths (ft.): 230'		· · · · · · · · · · · · · · · · · · ·		
Void(s) encountered (N/Y) Depth(s) Y 230'		·		
			L	<u> </u>
OPEN FLOW DATA (If more than two producing forms			ata on separate sl	neet)
Producing formation Marcellus Pa Gas: Initial open flow MCF/d Oil: Initial open	y zone depth (ft) 6.	150'-10,867'		
Final open flow Not Tested MCF/d Final open fl	I HOWBD	I/Q /A		
Time of open flow between initial and final tests	Hours	/u		
Static rock Pressurepsig (surface pressure)	after Hours	S		
Second producing formation	dand (0)			
Second producing formation Pay 2 Gas: Initial open flow MCF/d Oil: Initial open	zone depth (ft)			
Final open flow MCF/d Final open fl	ow Bhl	1/a /d		
Time of open flow between initial and final tests_	Hours	·u		
Static rock Pressure psig (surface pressure)	110413			

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Madlone Cilicania
Signature

9-14-201) Date

Were core samples taken? YesNo_X	Were cuttings caught during drilling? YesNo_X
Were Electrical, Mechanical or Geophysical logs recorded on the open hole logs run from 0' - 5,888' MD; sonic log from 4,691' - 5,888' MD; LWD GR from 10' - 5,88	his well? If yes, please list GR, neutron, density, and resistivity m 4,928' -10,998' MD.
FRACTURING OR STIMULATING, PHYSICAL CHANGE	DWING: 1). DETAILS OF PERFORATED INTERVALS, GE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC S AND BOTTOMS OF ALL FORMATIONS, INCLUDING URFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
(See Attached)	
Plug Back Details Including Plug Type and Depth(s): Cemer	nt plug @ 5074' - 5866'
Formations Encountered: Top Do Surface:	epth / Bottom Depth
(See Attached)	
<u> </u>	

#### PERFORATION RECORD ATTACHMENT

Well Number and Name: 833484 Robert Bone BRK 3H

PERFO	RATION RE	CORD	STIMULATION RECORD							
	Interval P	erforated				F	luid	Propp	ing Agent	Average
Date	From	То	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
6/3/2012	10,328	10,867	6/14/2012	10,328	10,867	Slk wtr	10,921	Sand	601,560	79.3
6/14/2012	9,747	10,268	6/15/2012	9,747	10,268	Slk wtr	10,643	Sand	597,940	79.3
6/15/2012	9,147	9,668	6/15/2012	9,147	9,668	Sik wtr	10,829	Sand .	599,740	80
6/15/2012	8,546	9,068	6/16/2012	8,546	9,068	Slk wtr	10,801	Sand	600,420	79.6
6/16/2012	7,948	8,469	6/16/2012	7,948	8,469	Slk wtr	10,801	Sand	602,380	79.7
6/16/2012	7,349	7,869	6/16/2012	7,349	7,869	Sik wtr	10,795	Sand	598,460	80
6/16/2012	6,749	7,270	6/17/2012	6,749	7,270	Sik wtr	10,730	Sand	599,440	79.5
6/17/2012	6,150	6,670	6/17/2012	6,150	6,670	Slk wtr	10,815	Sand	604,080	78.8
								<u> </u>	<u> </u>	
									]	
		·					<u> </u>		<u> </u>	

### **VERTICAL PILOT HOLE**

Formation/Lithology	Top Depth, TVD/MD (ft)	Bottom Depth, TVD/MD (ft)
LS/SHALE	0	230
PITTSBURG COAL	230	235
LS/SILTSTONE	235	400
SS	400	490
SHALE	490	610
SS/SHALE	610	1270
BIG LIME (LS)	1270	1300
BIG INJUN (SS)	1300	1574
SHALE/SS	1574	3700
SHALE	3700	5640
GENESEO (SH)	5640	5654
TULLY (LS)	5654	5710
HAMILTON (SH)	5710	5802
MARCELLUS (SH)	5802	5860
ONONDAGA (LS)	5862	
TD OF PILOT HOLE		5882

# LATERAL SIDETRACK WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SHALE	0	0	230	230
PITTSBURG COAL	230	230	235	235
LS/SILTSTONE	235	235	400	400
SS	400	400	490	490
SHALE	490	490	610	610
SS/SHALE	610	610	1270	1270
BIG LIME (LS)	1270	1270	1383	1383
BIG INJUN (SS)	1383	1383	1574	1574
SHALE/SS	1574	1574	3700	3700
SHALE	3700	3700	5670	5637
GENESEO (SH)	5670	5637	5684	5648
TULLY (LS)	5684	5648	5768	5706
HAMILTON (SH)	5768	5706	5956	5794
MARCELLUS (SH)	5956	5794		
TD OF LATERAL			11003	5759